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RELATIONS BETWEEN PUBLIC HEALTH ADMINISTRATION AND PRIVATE PRACTICE

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(Read before the Bernalillo County Medical Society, May 6, 1931.)

The relationship between the health bureau and the practising physician may be considered from two different points of view, according to which is, or might be, the aggressor. Usually it is the public health department which is aggressive, interfering, even, sometimes, a nuisance to the private practitioner. Let us, therefore, consider this aspect first and save the other and more important matter of the aggressive practitioner for later discussion.

The public health department tends to be a nuisance because it is its business to be a nuisance. We are responsible to certain federal authorities, namely the Census Bureau and the Public Health Service and through them to the people of the United States, for the accurate and prompt notification of births, deaths, and communicable disease. We are also responsible to the people of New Mexico, who employ us, for the detection and control of epidemic disease and for the preservation of the public health. Whenever we are aggressive, therefore, it is because we have to be rather than because we like it!

Fortunately the objectives of the health board are directly in sympathy with the ideals of the medical profession. Article 2 of the Constitution of the American Medical Association states that "The objects of the Association are to promote the science and art of medicine and the betterment of public health."

The ethics of the Association also specifically enjoin its members to cooperate in the administration of public health laws, and members of the New Mexico Medical Association constantly do so. The few doctors who fail us from time to time are not members of the Association.

Nobody, however, delights in useless work—what the French call travail de singe—however ethical it may be, and whenever there is a lack of cooperation on the part of some physician, the first thing I suspect is that he does not understand the reasonableness of our requests. Recently our vital statistician has been attempting to secure better notification of cases of pneumonia. I wonder how many physicians have assumed that this effort was due to a misguided affection for red tape. There are at least two good reasons why we are interested in the incidence of pneumonia. The first is that it provides us with an index of the prevalence of influenza. True, influenza is also a reportable disease, but experience shows that it very difficult to secure reports. Perhaps the cases are too numerous, perhaps many of them appear to be of too mild a nature to justify a report. At least, during March of this year, when it seemed that every person that we met had just had influenza and all the offices in the Capitol were eloquent with vacant chairs, we never had more than twenty-nine cases of influenza reported in any week from the entire state. Pneumonia is, then, an index which warns us indirectly of the nature of an influenza epidemic and which supplies data to those federal epidemiologists who are studying the behavior of influenza in the country as a whole. In the second place, pneumonia is an important cause of death in the mountain states. We should like to know the fatality rate in New Mexico, and to know this we must know the number of cases as well as the number of deaths.

Recently our vital statistician, having no-

ticed a death certificate on which the cause of death was inscribed as pneumonia, and for which there was no corresponding case notification, wrote and asked the doctor whether by chance he had overlooked reporting this case before death. The doctor replied that, if we desired, he would in future send notification by telegram—the case was moribund when first he saw it. Now this doctor has never thought of any other use for notification than to institute quarantine and therefore could see no sense in notifying to the health officer a case that would be dead before the health officer could do anything about it. I expect he felt that we were very stupid to desire a notification of pneumonia under such circumstances.

This is but one example—many others could be cited—of misunderstanding which arises through lack of contact between our bureau and practising physicians. Since many doctors in this state are not members of the State Society and since the distances are so great, it is impossible for us to meet personally a large proportion of the profession. There arises, in consequence, a certain need for charitable judgment on both sides and a belief that the other fellow may not be such a fool as he seems.

In the past, resentment has been aroused among the profession less by the activities of the public health administration in securing notification of births, deaths, and communicable diseases, than by certain efforts of these administrations to preserve the public health by methods that have interfered, or seemed to interfere, with the physicians' business. I cannot find that this has been particularly true of New Mexico. However, it may be worth while to inquire even here as to the legitimate limits of the public health doctor's invasion of the field of treatment.

In the first place, I would postulate that a health officer has the right to treat disease when (1) the private practitioner is not treating it and (2) its treatment is necessary for the protection of the public. If we can agree on that principle, and can work together with goodwill, I believe that the difficult borderline cases that will constantly arise in practice will be fairly adjusted.

There are two main reasons why the practitioner may not be treating a contagious disease: the patient may not believe in doctors, or he may not be able to pay them. In either case, as private practice is now organized, the practitioner will suffer no material loss if the health officer undertakes treatment. On the other hand, the bureau of health is far from anxious to undertake any treatment of indigent cases. It is my belief that some day, and soon, adequate treatment will be provided for all indigent cases (not merely those which constitute a menace to the public health) either through the initiative of the medical profession or through the initiative of the state. There are a dozen reasons why the profession should be first in the field with their plan, but these are outside the scope of the present paper.

I regret almost as much the present need for the health officer to give prophylactic treatment. This, in the twentieth century, is just as much the business of the practitioner as is any other form of therapy. But children must be vaccinated, they must be protected against diphtheria, they must be properly fed, clothed, and cared for in infancy. So long as you will not undertake to do these things I conceive it is the responsibility of our bureau to see that they are done. We cannot begin to fulfill the task adequately. We will turn it over to you whenever you want it. And, meanwhile, we will do our best to see that the officers in charge of prenatal or infant welfare clinics live up to the ethics of our common association.

Now I come to the other side of the shield. In what respects are you, or might you be, aggressive towards the Bureau of Public Health? We have a few facilities, such as the public will enable us to pay for. Are you using them?

There is, in the first place, our department of vital statistics. This department depends upon you for its material and you should have the first claim upon its products. The current number of the Journal of the American Medical Association[1] contains an example of the interesting statistical discoveries that may be made with the aid of the public health statistician.

A county or state medical society has unlimited opportunities for cooperative research. The health administration can help by supplying the often necessary statistical analysis.

We have no separate bureau of health education, but we have a quantity of educational literature for distribution. We have also some films and can tell you where other films may be obtained without cost beyond that of transport. Every physician visiting Santa Fe is invited to call upon the Bureau of Public Health, inspect its stock of literature and its loan library of technical works, and

(1) Acute Appendicitis: A survey of Its Incidence and Care in Philadelphia. John O. Bower, M.D. Philadelphia Journal of the American Medical Association, Vol. 96, May 2, 1931.

to carry away with him whatever he may find of value.

The state laboratory is anxious at all times to aid you by making tests whenever those tests are demanded primarily in the interest of the public health. Tests that are made primarily in the interest of the patient should naturally be made by a specialist who charges the patient a fee. It is inevitable that many tests made primarily in the public interest will give information that is also of value to the patient. This creates a degree of unfair competition which can at least be minimized by the loyalty of the profession to its own members as well as to the public.

Physicians who find their work complicated by problems of environmental sanitation will often be able to gather useful suggestions from the state sanitary engineer. No doubt he is kept busy. Even so, the practising physician has as much right, and more, to call upon his time as any other member of the community.

The nursing division is represented by the county health nurses out in the field. These nurses cannot, of course, undertake bedside care. But, under the direction of the county health officer, they can perform many services in which the practising physician is interested. They instruct in the technic of isolation; give advice to pregnant women; discover defects in children and urge the parents to take their children to a doctor for advice and treatment. Whenever you see opportunities for public health nursing that you feel are being neglected, please draw the attention of the county health officer to such opportunities. If, on the other hand, a nurse seems to be overstepping the boundaries of her province bring that to the health officer's attention also. Maybap he can easily explain what has been misinterpreted. Maybe mistakes have been made. We have a supervising nurse at Santa Fe who can make all rough places plain.

Finally I would call attention to a recommendation of the White House Conference that has received less attention than, in my judgment, it deserves. It was recommended that State Medical Associations appoint a public health committee to confer with the public health administrators of the state. Such conference should lead to many progressive public health undertakings as well as to a continued mutual understanding and respect among us all.

(Note: At the meeting of the New Mexico Medical Association in Albuquerque, May 20-22, and on the initiative of the delegates of the Bernalillo County Medical Society it was agreed to appoint a committee on public health of the State Medical Association.)

CHRONIC FRONTAL SINUSITIS

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(Read before the New Mexico Medical Society, at its Forty-Ninth Annual Meeting, at Albuquerque, N.M., May 20-22, 1931.)

There is no disease so difficult to treat as chronic frontal sinusitis. It differs so much in symptomotology and pathology that apparently similar cases present entirely different aspects. Each case must be studied separately and treated according to its several indications. Often these indications are hard to interpret, for the frontal sinuses are irregular in size and shape and differ anatomically in every individual.

Ear, Nose and Throat men for the most part have been trained as physicians, or as surgeons. A few have had training in pathology. A thorough knowledge of pathology, however, is essential in this disease, for it is the basis of understanding its symptomatology and treatment.

The cause of sinus disease has created much discussion. All are agreed on one thing, and that is that bacteria are present in all cases. They are the causative factor in the disease. They become more virulent as the bodily resistance is lowered by systemic infection. One group of rhinologists claim that sinus disease is the result of direct extension of infection along the mucous membrane layers of the nose. Others feel that sinuses are directly invaded through the blood stream. Inasmuch as the mucous membrane at the opening is the same structure histologically as that in the sinus itself, the extension of the inflammation from the nose is likely what happens in the majority of cases. The greater number of infections of the sinuses follow the infectious diseases.

"Suppurative diseases of the sinuses are the direct result of bacterial invasion but whether these micro-organisms act primarily directly on the mucous membrane or whether they require that the vitality of the mucous membrane be first lowered by some general systemic disease," seems to have been a more or less debated question. It is the consensus of opinion at the present time that the mucous membrane's vitality has first to be lowered by local and general causes, for the bacteria to be effective. Dean, of St. Louis, has stressed diet, but also says it cannot take the place of proper laryngological procedure.

Ballenger in his book, published many years ago, gave obstruction to drainage as the causative factor. Hurd, of New York, in a more recent article, says that besides this,

three other things are to be considered: (1) deficiency in vitamines; (2) allergy; (3) endocrine disturbances. These conditions cause the mucous membrane to lose its tone and this allows invasion of bacteria.

Acute sinus disease is prone to heal spontaneously. If it does not heal, and becomes chronic, it is because of two factors, local and general. The local conditions are any anatomical or pathological causes that obstruct drainage. The general conditions are any that have a tendency to lower the resistance of the body. Disease of the sinuses means there is some general systemic, metabolic, or nutritional wrong, or some local condition which reduces local resistance for bacteria to gain a foothold. The removal of these causes tends towards a spontaneous restoration of a normal condition.

Chronic frontal sinus disease does not result from one attack as a rule, but from several repeated attacks of acute inflammation. Between the acute attacks there are apparently normal intervals, when the patient is free of symptoms, except an early morning clearing of the throat, hawking, and spitting. After each inflammatory attack, the mucous membrane has less tendency to return to normal. As the outlet is engaged in the inflammation, it thickens and there is a narrowing of the naso-frontal duct, which tends to hinder spontaneous healing. The statement of the patient that he is free from symptoms except when there is an attack of coryza, is no proof that condition in the sinus is normal during the interval. The more attacks the patient has, the more severe are his subjective symptoms; consequently, the more development there is of pathological changes in the mucosa of the affected sinus. Once the condition of sinusitis is established, there seems to be a vicious circle maintained by the local and general conditions combined. The general conditions lower the vitality. This makes local conditions worse. There is a production of edematous mucous tissue, which blocks the sinus. The toxic products attending on the disease are absorbed by the system, so we have a continued lowering of the vitality with subsequent continuation of the sinus infection.

Three types of mucous membrane inflammation are recognized clinically: (1) thickening of mucous membrane, with pus; (2) thickening of mucous membrane, without pus; (3) the type in which the mucosa has undergone a diffuse fibrosis with infiltration. There are all grades, conditions, and mixtures of these three types. There are no findings, however, that will enable one to correlate a definite group of symptoms with the pathological findings. It is impossible to bring different anatomical findings into harmony with clinical symptoms.

The pathological anatomy of sinus is interesting. The slides shown you illustrate the condition of the mucous membrane in chronic disease. The tissue shows inflammatory changes, with marked infiltration of round cells. There is thickening of the mucous membrane, with increase in fibrous tissue. In some of the specimens you will note a decrease in the glands, and tissue spaces that have been filled with serum. In the books several forms and stages of the chronic disease are given. (1) the edematous; (2) the glandular: (3) the fibrous form, are beautifully illustrated, but in these specimens you will see mixed form that is hard to separate.

In making a diagnosis of chronic frontal sinusitis there are two things greatly helpful, the x-ray and the presence of secretion that can definitely be determined as coming from the frontal sinus.

The x-ray, when corroborated by the presence of pus, is the positive proof of a diseased sinus. Pain is seldom present except during an acute exacerbation or in the presence of impending complications. When present, it is usually very severe. These patients always have a sense of fullness or pressure in the frontal region. On examining the region of the opening of the naso-frontal duct, we see in nearly all cases a swelling of the anterior tip of the middle turbinate. In most chronic cases the naso-frontal duct is fairly easily probed. It is sometimes constricted or blocked by the uncinate process, by the bulla ethmoidalis pushing forward, on enlarged middle turbinate, a thickened or deflected septum, or by nasal polypi. When pus is retained over too long a period during one of the acute exacerbations, we get bony necrosis. Pus breaks through the bone, causing edema of the eyelids or orbital abscess, or through the inner wall, causing a brain abscess or meningitis.

There is much diversity of opinion regarding the treatment of sinuses. The patients are bewildered by the different things told them. Some physicians are very conservative, meaning by conservatism that they do not believe in doing anything at all, while others would rip out the sinus, teeth and toe-nail, so to speak, with utter disregard for the consequences. Such an attitude has brought sinus surgery into disrepute. It has led to an idea that "once a sinus, always a sinus." Some say there has been too much ill-timed surgery done on the sinuses, surgery that has made the patient infinitely

worse, yet at the same time they claim it has its place in treatment and cannot be dispensed with. The idea in sinus surgery should be this: When a decision is reached to operate on a sinus, the operation should be done thoroughly and painstakingly, if at all. It is the half-operated sinus that does not do well, and has added more than anything else to the disrepute of surgery in chronic sinus disease. I believe the key note of treating sinuses is this: Seek to remove any underlying cause that would undermine the health and keep the patient below par. Build up the resistance by hygienic, or other measures. Then remove all local causes, leaving the nose in as nearly a normal condition as possible. The least that can be done in a nose to restore it to its proper function, the better for all concerned. There are many cases of chronic frontal sinus disease cured by a submucous resection and proper hygienic measures. Conservatism that borders on therapeutic nihilism is not to be recommended, but rather that conservatism that tends toward a normal restoration of function.

Patients suffering from chronic frontal sinus disease almost always consult a physician for one of four things: (1) chronic pharyngitis, with inflammation of the lateral wall of pharynx; (2) an acute exacerbation of a chronci process; (3) polypi in the nose; (4) bony necrosis, sub-periosteal abscess, orbital abscess, brain abscess, or meningitis. Most all interval cases are discovered during routine examination. The only annoyance chronic interval patients seem to have is blowing the nose and clearing the throat on arising each morning.

Treatment should be directed to the cases in hand; no two are alike and all require careful study. As a rule, they will come under the classification as listed above and can be so treated.

The first type, chronic pharyngitis cases, are treated in the following manner: A careful examination is made. If there is not room in the nose, a sub-mucous resection is done and the middle turbinates fractured over toward the septum. The nose is packed every other day, in the region of the naso-frontal duct, with tampons soaked in 10 per cent argyrol in glycerine. This is allowed to remain thirty minutes and then gentle suction is applied. Hygienic and other measures are gone into thoroughly. The most of these cases get good results. They lead a fairly comfortable life, with a discharge after each attack of rhinitis, but no pain.

Acute exacerbation. These cases come in suffering severe pain. When the disease is quiescent there is no pain. It is in the acute attacks and flare-ups of chronic process that there is pain. The pain is severe. It often appears at a regular time each day. It is over the forehead, at times behind the eye, radiates to the temple, and is felt behind the ear. Frequently there is a painful spot two inches behind and one inch above the external auditory canal. Cases have been seen with pain on one side and the lesion on the other. These patients must have relief. The anterior tip of the middle turbinate is taken off, and the sinus irrigated with normal salt solution. In 95 per cent of the chronic cases, a sound can easily be passed, after inflation of the turbinate or resection of the anterior tip. The patients are put to bed, and usually are free of pain in a few hours. After the acute symptoms have subsided, a submucous resection is done, if needed. They are then treated as class 1.

Class 3. The polypus cases. The blocking of the nasal passages is usually what attracts the attention of the patient to his trouble. The frontal and ethmoid sinuses are diseased, as in most of the others, but the polypus is the main complaint. These cases are surgical from the beginning. The polypi are removed and an intra-nasal operation is done on the frontal and anterior ethmoids after the method of Halle. Fifty milligrams of radium is placed in the ethmoid area and left two hours. The patients are allowed to rest a few days. They are then treated with argyrol packs and gentle suction.

The fourth class are those in which we have an orbital abscess, bony necrosis, or other urgent complication. These require an external operation. After having tried all types of operations, it seems Skillern's modification of Lothrop's old operation, changed to suit the case in hand, gives the best results.

This is done as follows: The intra-nasal, ethmoid and frontal operation of Halle is first done. Then externally an incision is made from the junction of the frontal with frontal process of maxillary through middle of eyebrow, as far outward as the x-ray picture shows the sinus to extend, the cut extending only through the skin and sub-cutaneous tissue. The flaps are then dissected up and down for a distance of one-half to one inch. Hemorrhage is controlled by hemostats. Beginning now at about one-fourth inch higher, the incision is extended through the periosteum to the bone, paralleling the first incision. The upper flap is dissected up as far as the sinus extends, the lower one to about the level of the floor of sinus. With

a chisel, an opening is made into the sinus above the junction of the frontal and maxillary bones. A groove is made, with a Killian V-shaped chisel, from this opening to outer limit of sinus just under the periosteal incision. This is to keep the lower part from chipping off during the rest of the operation. The remaining upper outer and inner wall of the sinus is then removed with chisels and rongeur bone forceps. If all the mucosa is diseased, it is removed; if not, only the diseased portion is removed. All septa are removed so as to have one large smooth cavity. A probe is passed into the naso-frontal duct. The naso-frontal spine is removed with a rasp or chisel until the opening is large enough to permit free drainage. Any ethmoid frontal cells, that have been overlooked during the intro-nasal operation, are then removed. Gauze is passed through the naso-frontal duct and all loose pieces of bone wiped away. A rubber drainage is passed through the opening, leaving the upper end about the middle of the sinus, the lower end at the opening of the nose. The periosteal and muscular flap is then closed with chromic catgut: the outer skin, with fine silkworm gut. The usual after care is practised. The patients, as a rule, are able to leave the hospital in ten to twelve days.

In conclusion, I wish to state that the surgeon who expects to cure his sinus cases by surgery alone will be doomed to much disappointment. Surgery is necessary in many cases, but a knowledge of the endocrine system, whether the case is allergic or not, and the administration of proper foods, particularly the vitaimns A, B, and D, is also highly essential, for it has been definitely proved by observers that a cure cannot be brought about by surgery alone, nor by hygienic measures alone; but the two, when properly combined, will in most instances effect a cure.

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DISCUSSION

DR. S. D. SWOPE, El Paso, Texas: I do not want to seem conspicuous, but think one of the greatest mistakes I ever made in my life was in doing an operation for frontal sinusitis. A great many years ago, an old doctor friend of mine sent for me to come down to his town, as he had a patient who had some trouble in the head over one eye, which had been diagnosed as frontal sinusitis. My friend, Dr. Brown, had exercised all his skill without any result, and the patient's brother, a preacher, had prayed all his prayers without result. I thought the best thing to do after looking at the patient and thinking it over was to trephine that sinus. Well! They had prayers before the operation; then I started in to make my incision. The trephine did not work very well and, rather than swear in front of this minister, I began to whistle. About ten or fifteen days later, old Brother Brown came to my town and had a talk with my druggist. He asked him if he knew this man Swope. "Oh yes," the druggist replied, "I know him well." "Well, he is the hardest-hearted man I ever saw," Brown remarked. "He bored a hole in a poor man's head and just whistled all the time."

THE SERUM TREATMENT OF LOBAR PNEUMONIA

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(Read before the New Mexico Medical Society, at its Forty-Ninth Annual Meeting, Albuquerque, N. M., May 22-22, 1930).

The recent acceptance by the Council on Chemistry and Pharmacy of the American Medical Association of concentrated antipneumococcus serum representing Type I of the pneumococcus, marks an important advance in the search for an effective specific serum for the treatment of pneumonia, which began back in the time subsequent to the discovery of the diplococcus of pneumonia and its identification as the causative agent of the disease. Various and many have been the preparations which have been tried out, but practically all of them have been discarded, for one reason or another, and none have achieved the recognition which is now being accorded the concentrated antipneumococcus serum made after the method of Felton.

The review of the literature is most interesting and instructive but to give this would occupy more time than is permitted to the discussion of this subject and, as the information can be secured from any one of a half dozen different sources, we shall confine ourselves to a discussion of our experiences with the preparation which we have just mentioned and with Huntoon's pneumococcus antibody solution.

In 1921, Huntoon sought to obtain pneumococcus antibodies freed of serum. "He suspended pneumococci of types I, II and II in a large amount of a trivalent serum which had been obtained from horses that had previously been inoculated with pneumococci of the types just mentioned. he bacteria, united with the antibodies, were removed by centrifugalization and washed free of serum with saline solution, emulsified in saline soluution containing 0.25 per cent bicarbonate of soda and heated from 30 to 60 mniutes at 55° C. The emulsion was then centrifugalized, the supernatant fluid was chilled and filtered through a candle. The filtrate obtained by this method is a clear, colorless fluid and contains only a minimum trace of serum and a high content of antibodies against pneumococcus type I and a very little of the antibodies for types II and III."

Our experience with this solution, though limited, was sufficient to make us discard it as a routine therapeutic measure. The especially large amount which was necessary at each dose was an objection in itself; but the intravenous injections of this solution were invariably followed by a severe chill, with marked cyanosis and dyspnea, followed in from 30 to 60 minutes by a rapid decline in temperature, with marked prostration, and in two of my cases with marked delirum amounting to what I would term a temporary insanity. Subsequent dosage produced the same chill and other train of symptoms, though in lessened degree, and, while the treatment appeared to be productive of results in securing the crisis from 24 to 40 hours earlier than usual, the convalescence appeared to be prolonged because of the great amount of prostration and a degree of nervousness which is not usual subsequent to a crisis in pneumonia. The value of treatment by this method was further lessened by the report of fatalities which occasionally followed the sharp reaction. We have had no experience with this preparation subcutaneously and have discontinued its use.

Our experience with the concentrated antipneumococcus serum is limited to three cases and we do not presume to speak with the voice of authority as a result of the knowledge gained from its use in our own practice, but the available and the ever-increasing favorable literature concerning the value of this serum in pneumonia due to type I of the pneumococcus family, is our excuse for bringing this subject forward in the hope that we might emphasize two or three of the points which are mentioned in the literature and which have been noted in the cases in which we have used the serum.

According to a table of Avery, Chickering, Cole and Dochez, 33.3 per cent of all pneumonia cases are caused by type I and 33.5 per cent by type II—hence, practically one-half of the cases of pneumonia are due to types I and II of the bacilli and it is in these cases that the concentrated serum of Felton finds its greatest usefulness. With this in mind, it follows that theoretically we should know the type of the pneumococcus which is causing the disease prior to administering the serum. Properly to determine the type is not an easy matter and for the general practitioner usually an impossibility, inasmuch as the method of determination calls for apparatus and technic which is not generally available, and this feature of the treatment must of necessity be left to the practitioner who is fortunate enough to be connected with some large general hospital or near to some well-equipped laboratory. The inability to secure the proper information as to type should not deter the physician from using the serum. As a matter of fact, in our opinion, there should be no delay in giving serum

even though there is no hope of ever securing the information as to the exact type. The concentrated serum should be given at once, with the knowledge that it has been found very effective in type I and less so in type II, and that these types are the most preferable ones. The best results are obtained when the serum is given early in the course of the disease. We do not believe that the serum should be withheld simply because the patient is gravely sick. "More gravely sick patients are saved with serum than can be saved without serum. Almost 40 per cent of the patients rated poor were saved with serum while we saved none of those rated as poor among those where serum was withheld.'" The quotation just read is taken from an article by Bullowa, of New York, who also calls attention to the fact that patients suffering from asthma or who have a history of horse sensitiveness or who are definitely moribund, should not be given the serum.

The question of what constitutes effective dosage is a most important one. Our practice has been to give 10,000 units intravenously the moment the diagnosis has been established and to repeat this at intervals of from six to eight hours or longer, as the indications of each individual case demand. Park[4] recommends from 50,000 to 100,000 units during the first twenty-four hours, while Cecil and Sutliff[5] recommend 100,000 units in the first twenty-four hours. In our experience we have never had to use these large amounts, but it is reasonable to suppose that the later in the course of the disease that the treatment is begun, the larger will be the dosage required, and this is particularly true if the blood stream has been invaded by the organism, as larger amounts would necessarily be required to sterilize the blood stream and to conquer the disease than are necessary in the preblood-invasion stage.

Good practice in the administration of the serum is to precede its administration by a check on the individual's susceptibility to serum sickness and the conjunctival test has been found to be reliable.

In considering the effects of treatment on the disease, Cecil and Plummer[5], in a recent report of a study of 1,161 cases of pneumococcus type I pneumonia in which 473 are included in a therapeutic study of the concentrated antiserum made according to Felton method, demonstrated a reduction in the mortality rate from 31 to 20 per cent, and this was further reduced to 11.7 per cent in those cases in which the serum was administered within the first seventy-two hours after the onset of the disease. In the few cases which we have had, we have been impressed by the absence of the usual serum sickness and other reactions, and the authors above mentioned, after discussing the simplicity of the technic, refer also to the marked lack of the usual serum sickness and other reactions.

In addition to the possible limitation of the use of this antiserum because the average practitioner can not secure proper typing of the pneumococcus, there is the matter of cost. The average patient can ill afford, in addition to hospital, nurse, and physician's fees, the added cost of this serum. The average price of 10,000 units is $15.00. Assuming a 50,000 to 100,000 dosage in the twenty-four hours, followed by the necessary subsequent dosage, it is easy to realize how handicapped is the average patient, as well as the average physician.

CONCLUSIONS

1. Concentrated antipneumococcus serum is specifically indicated in all cases of pneumonia due to type I pneumococcus.
2. The average dose should be between 50,000 and 100,000 units in the first twenty-four hours.
3. The serum should be administered as soon as the positive diagnosis is made.
4. The earlier the diagnosis, the better the chances for good results.
5. The use of the antiserum is markedly free of untoward results when properly administered.
6. The high cost of the serum markedly limits its usefulness.

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DISCUSSION

DR. F. D. VICKERS, Deming, N. M.: I enjoyed Dr. McBride's paper very much. It has been very difficult for me to find vaccines of much value on account of the reactions. Influenza vaccine I have found to be of use in cases of pneumonia, but in nothing else. In such cases I have had very good results with it.

DR. McBRIDE (closing): It was necessary for me, through lack of time, to restrict my paper to serum treatment and not touch on the question of vaccines. Certainly it would seem to me that anything that will reduce mortality from 31 to 20 per cent, as has been shown with use of the concentrated antiserum, is most worthy of consideration.

TRIBROMETHYLALCOHOL ANESTHESIA

P. L. TRAVERS, M.D.
Gallup, N. M.

(Read before the New Mexico Medical Society, at its Forty-ninth Annual Meeting, Albuquerque, N. M., May 20-22, 1931).

In this particular part of the country there are certain conditions to which this subject is peculiarly adapted. We particularly are in the need of modified anesthesia. In my limited experience here, postoperative pneumonia and other bronchial affections have made surgical procedures difficult and attended with more or less fear. After some investigation and at the suggestion of two very eminent surgeons of Baltimore and Washington, I have used the commercially so-called "Avertin," technically known as tribromethylalcohol compound, as a rectal basal anesthetic, with such delightful results that I cannot help expressing myself most enthusiastically in its favor. I do not want to be ridiculously radical, but in the interest of the patient, I must urge especially those of you who might be having difficulties following the use of general anesthetics, at least to investigate the real value of tribromethylalcohol as a basal or accessory anesthetic. In February, 1930, the Council of Pharmacy and Chemistry submitted a report to the Journal of the A.M.A. in which it does not advise the use of "Avertin" until further balance of the drug is established. A summary of the report was as follows:

"The Council recognizes the fact that avertin presents certain desirable properties but definite action concerning its recognition was postponed pending the result of investigations of certain of its side actions now being conducted. For the information of the medical profession the Council submits the following report concerning the present status of the drug:

"Avertin is tribrom-ethnol, CBr_3CH_2OH, a white crystalline substance. It was introduced in Germany by Willstaedter and Duisberg in the summer of 1926, to be used alone for rectal anesthesia or to be supplemented by other narcotics, including morphine and ether. It was supplied to a number of clinics, in which it was used experimentally. A superficial pharmacologic study of Eichholtz, made in the laboratory of the manufacturers, and a clinical report by Butzengeiger, were presented at the German Surgical Congress at Berlin in April, 1927.

"ACTION. Avertin depresses the respiratory center lessening both frequency and volume; it depresses the vasomotor center, causing a fall of blood pressure. The depression of the respiratory center is the more pronounced; but when it coincides with the depression of the vasomotor center, it increases the danger, especially when it is used with morphine and other accessory narcotics. Kil'ian states that avertin acts on the liver like chloroform. In 1928 he analyzed a number of reports of deaths from avertin and concluded that avertin injures the respiratory center more than chloroform or ether narcosis of equal depth. Killian severely criticizes Melzner, stating that the larger surgical clinics in general take a cautious attitude, some warning against it and some wholly denying its use.

"The advantages claimed for avertin liquid include: (1) Absence of irritation of the respiratory tract with less postoperative bronchitis and pneumonia. (2) Absence of direct injurious action on the heart, kidneys and other organs, with the possible exception of the liver. (3) Convenience for operations about the face, especially when a cautery must be used. (4) Usefulness in long operations when deep anesthesia is not necessary. (5) Less frequent vomiting than after ether or chloroform. (6) Lasting sleep after operation, frequently making it unnecessary to use morphine for the relief of postoperative pain. (7) Amnesia. (8) Absence of injury after repeated administration (as in tetanus). (9) Rapid elimination (imploying less toxic action). (It should be understood that publications concerning "Avertin" refer in part to avertin alone, and in part to avertin liquid containing amylene hydrate).

"A preliminary report such as this can hardly be more than suggestive in view of the almost innumerable problems that are involved; but the foregoing presents the evidence concerning the drug which is at the present time available to the Council. Though the present evidence indicates that avertin may prove valuable as a means of initiating narcosis (so-called basis narcosis) but not for complete narcosis, the Council decided not to admit the drug to New and Nonofficial Remedies: (1) until satisfactory studies of its properties, its advantages and its disadvantages have been made; (2) until the contraindications have been satisfactorily established; (3) until a generally accepted technic whereby it can be used as satisfactorily as ether has been established; (4) until the action of the amylene hydrate in avertin liquid—whether by addition or by potentiation—has been determined and the amount declared; and (5) until the advertising has been revised to omit misleading statements contained in the present adver-

tising and especially to recommend the product only for initiation of narcosis (basis narcosis) and not for complete narcosis."

Since this report, however, this product has been more carefully arranged and the dosage has been accurately defined; over 150,000 cases of this anesthesia have been reported in the European literature.

WHAT AVERTIN IS

Avertin fluid (the only available form) is a solution of avertin in amylene hydrate, which dissolves avertin in high concentration and is itself readily soluble in water. Each cubic centimeter of avertin fluid contains 1 Gm. of avertin and 0.5 Gm. of the solvent. Amylene hydrate is volatile and inflammable (but not explosive).

Solutions of avertin in water must be prepared at moderate temperature, 95 degrees to 104 degrees F (35 degrees to 40 degrees C). At a higher temperature, hydrobromic acid is split off, and dibromacetaldehyde is formed. The latter produces marked irritation and even necrosis of the intestinal mucous membrane. This chemical change cannot occur when solutions of avertin are properly prepared.

SURGERY AND GYNECOLOGY

The present extensive literature embraces about 400 published articles, based upon experience in over 300,000 reported and published cases.

Preoperative preparation. The evening before operation the customary cleansing enema is given. It is not necessary to empty the intestine on the day of operation. In fact, it has been recommended that rectal irrigation be avoided a few hours before injection of the avertin solution, as the fluid which remains in the bowel may delay absorption. Even in emergency cases, avertin is effective without a preparatory enema. Before the operation, a hypodermic injection of morphine and atropine may be given, as with other anesthetics, although some operators object to this or consider it unnecessary. When extreme dehydration is suspected, it is suggested that 16 to 24 ounces of liquid be given orally during the night before operation, as in preparation for any form of anesthesia.

Dosage. Avertin is recommended solely as a basal anesthetic, to be supplemented by some general or local anesthetic. For basal anesthesia in general and special surgery, the maximum does is 0.1 c.c. (100 mg.) of avertin fluid for every kilogram, or 2.2. pounds, of body weight. The total amount of avertin fluid should not exceed 6 to 8 c.c. for women, nor 9 to 10 c.c. for men. For debilitated, cachetic or dehydrated patients and for obese persons, it is recommended that the dosage should not exceed 0.08 c.c. (80 mg.) of avertin fluid per kilo. As children are more tolerant to avertin than adults, no allowance need be made for youth in determining the dose. On the other hand, the basal narcosis may not be so deep, so that relatively more of the supplemental anesthetic is required.

The larger doses recorded in the earlier literature on avertin should not be employed. It is now recognized that such amounts were excessive in many instances and, together with the use of decomposed solutions, were largely responsible for ill effects and fatalities which occurred during the initial test period abroad.

PREPARATION OF SOLUTION

In the preparation of avertin solutions, the simple directions given below should be observed. It is particularly important to avoid heating the solution above 104 degrees F (40 degrees C), as otherwise hydrobromic acid and dibromacetaldehyde are formed, the latter having a markedly irritating action upon the rectal mucosa.

1. Heat the measured amount of distilled water to 104 degrees F (40 degrees C), using a glass receptacle that can be tightly closed (the ordinary Florence flask), with a capacity of 500 to 1000 c.c.

2.. Measure the dose of avertin fluid with a 10 c.c. graduated Luer syringe or pipet.

3. Add the avertin fluid to the water. Stopper the flask, invert, and shake vigorously until all globules of avertin fluid have disappeared.

4. Do not permit the solution to cool. (It may, however, be kept in a thermos bottle at body temperature for twelve hours.) If precipitation occurs from cooling, discard the solution.

5. Test the solution with Congo red before use.

Test before using. Immediately before injection, place 2 to 5 c.c. of the prepared 2.5 per cent avertin solution in a test tube and add 1 or 2 drops of the 1:1000 aqueous (not alcoholic) Congo red solution. A pure orange-red color should develop. If the color is, or becomes, blue or violet, the avertin solution should be discarded, as it has been decomposed and hence is dangerous. This is a reliable safeguard only when distilled water has been used to prepare the avertin solution. Therefore, ordinary tap water should not be employed. Milk, gum arabic, or other substances, should never be added until the solution has passed the test.

MANNER OF USE

The rectal injection of the 2.5 per cent solution of avertin at body temperature is given twenty to thirty minutes before opera-

tion, preferably in the patient's room. The administration is as simple as giving an enema, being made by means of a funnel with a male catheter at a slow rate (five to ten minutes).

During avertin narcosis per se, there is no increase of bronchial or salivary secretion, no gagging, nausea or vomiting.

If obstruction of the air passages is prevented, the breathing is quiet and regular, and the patient's color remains normal, as in natural sleep. To avoid respiratory difficulty and cyanosis from swallowing of the tongue, an "airway" of metal or firm rubber tubing should be inserted as soon as narcosis is complete, and left in place until the patient awakes. Otherwise, the patient's head should be kept low and on its side. If respiratory depression or cyanosis occurs, it is usually overcome readily by a few whiffs of ether. In severe cases, oxygen (with or without a little carbon dioxide) is indicated, to be supplemented by an injection of ephedrine (but not epinephrine), caffeine sodiobenzoate, or atropine.

Within about twenty minutes, the patient can be transported to the operating room. The duration of basal narcosis with avertin varies from one and one half to two hours or more. It is most profound during the first thirty to forty-five minutes, and then gradually decreases in intensity.

SUPPLEMENTAL ANESTHESIA

If reflex movements are elicited by pinching the skin with forceps while the patient is in the anesthesia room, or subsequently during the application of iodine, towel clips, and so forth, in the operating room, a little ether, ethylene or nitrous oxide should be given. To secure complete muscular relaxation during the operation, some additional ether or other inhalant is required. A few whiffs may again be necessary from time to time, and before insertion of the sutures. In the majority of cases, the total amount of inhalation anesthetic employed during the entire operation has been computed as less than half of that ordinarily demanded. When using nitrous oxide or ethylene, the amount of oxygen in the mixture is advantageously increased, often to exceed the percentage of the anesthetic gas.

In operations about the head and face, the inconvenience of the ether or gas mask can be avoided by giving the supplemental anesthetic only at intervals. In electrosurgery, the risk of explosion can also be obviated by this method.

Local anesthesia by infiltration with 0.5 per cent novocaine solution has also been employed in combination with avertin basal narcosis.

POSTANESTHETIC STAGE

The patients usually leave the operating room dry, pink, and warm. Shortly after regaining consciousness, they again fall into an agreeable sleep during which postoperative pain is not experienced and from which they are readily aroused. This sleep persists for several hours. A welcome feature is the amnesia. "Even though the narcosis has been very light, there will be no memory of anything from the time of injection. Further, the events of the next twenty-four or thirty-six hours will not be remembered with any clearness, and the whole horrible business of being anesthetized and of recovery is thus not only diminished in fact, but is minimized in retrospect." (Edwards).

Postoperative excitement is of rare occurrence or so slight that it promptly yields to an injection of morphine. As nausea and vomiting are virtually absent following avertin basal anesthesia, water and liquid nourishment can be given soon after operation. The occurrence of abdominal distention and colic is infrequent. The incidence of postoperative pneumonia and bronchitis is diminished. If the prescribed directions for the preparation of solutions are followed, no irritation of the normal intestine is produced by avertin.

CONTRAINDICATIONS

Avertin basal anesthesia has been used in practically all branches of surgery, for operations on the head, neck, breast, chest, abdomen, pelvis and extremities, in adults and children.

Contraindications are severe organic disease of the liver, serious bilateral disease of the kidneys, lesions of the rectum, acidosis, starvation, severe blood diseases, and grave cachexia, in all of which the use of the inhalation anesthetics is also hazardous.

OBSTETRICS

In obstetrics, use table No. 4: dosage, 60 mg. per kilo. body weight. From one-half to one hour before its administration, 1/6 to 1/4 grain of morphine is injected subcutaneously.

The avertin enema is given about one and one-fourth hours before the anticipated delivery, i.e., when the cervix is dilated and the head of the child is below the pelvic brim. To avoid expulsion of the solution, the catheter is introduced above the child's head. It is sometimes advantageous to allow the fluid to run intermittently between pains, instructing the patient to bear down as little as possible. If the pressure of the child's head occludes the catheter, insert one finger in the rectum, pushing head up between pains and inserting tube as possible. The effect is established in about 15 minutes and

lasts for one to two hours. Occasionally, a second or even a third injection of a smaller amount (20 to 30 mg. per kilo.) may be necessary after an interval of three to four hours. Uterine contractions are less frequent and may be slightly diminished in force. Small amounts of a supplemental anesthetic are usually indicated for the third stage or for any required perineal repair.

Eclampsia. Avertin has also been tested in eclampsia, in doses of 80 to 100 mg. per kilo. The attacks become less frequent and milder, and finally cease.

Dosage Table No. 1.
Basis: 100 milligrams per kilogram of body weight.

Dosage Table No. 2.
Basis: 90 milligrams per kilogram of body weight.

Dosage Table No. 3.
Basis: 80 milligrams per kilogram of body weight.

Dosage Table No. 4
Basis: 60 milligrams per kilogram of body weight.

In tribromethylalcohol we have an anesthetic which produces unconsciousness in a most satisfactory manner. When combined with light gas anesthesia, the relaxation is usually adequate. The duration of the anesthesia is sufficiently prolonged, and no unpleasant postoperative complications have been observed.

Without attempting comparisons with other anesthetics, we believe tribromethylalcohol is entitled to a very high rating in respect to safety. Deaths have been reported under its use, but these were due almost entirely to improper administration or overdosage, both of which errors are now being eliminated by riper experience. While the relatively small number of our cases does not permit us to speak authoritatively, from our general experience with gas, ether, and their combinations, we do not hesitate to express the opinion that tribromethylalcool is equally as safe.

Although ether anesthesia produces unconsciousness, it apparently protects none of the brain cells against exhaustion from the trauma of operation. The anesthetic gases are said to produce about one-fourth the exhaustion after equal trauma, according to Gwathmey. It is impossible to estimate the amount of damage inflicted by the psychic shock in some patients, particularly children, immediately preceding and during the induction of anesthesia. With preliminary morphine medication, the proper dosage of tribromethylalcohol, light gas anesthesia, and infiltration with novocain, perhaps the most complete brain block is produced.

ACTION

When injected into the rectum, tribromethylalcohol is absorbed by the intestinal mucosa more rapidly than the water in which it is dissolved. The absorption is fairly rapid, totaling 80 per cent in the first twenty minutes, and 95 per cent within the first two hours. No local irritation of the rectal mucosa has been observed from the use of a properly prepared and tested solution. During anesthesia the concentration of tribromethylalcohol in the blood is 6 to 9 milligrams per cent.

Detoxication of tribromethylalcohol occurs in the liver through the formation of a compound with glycuronic acid, the resulting product being eliminated by the kidneys.

Respiration is superficial in tribromethylalcohol anesthesia, but in cases of dyspnea, the respiratory center is not materially affected. The heart is evidently not influenced by the average anesthetic dose. The pulse rate is practically normal and there is usually little change in blood pressure, although occasionally a fall up to 20 millimeters occurs.

ANESTHESIA

The outstanding feature which makes tribromethylalcohol a remarkable agent is the ease with which anesthesia is produced. No anesthetic with which we are familiar approaches it in this respect. It is now possible to produce unconsciousness without the patient being aware that an anesthetic is being given. The patient falls asleep in three to ten minutes without mental or physical excitation, and usually recalls the experience only vaguely, and then as a pleasant one. Thus, surgery has been divorced from much of its terror. Tribromethylalcohol is a boon to the excitable and apprehensive patient, and especially to children. It has filled a great void in pediatric surgery. A child is given the small tribromethylalcohol enema in bed without any disturbance, and in a few minutes falls asleep without excitement and without being aware of the impending operation.

We have not found it necessary to stop the anesthetic or to resuscitate a patient in our series. On the other hand, we have been impressed by the freedom from cyanosis (the patient being watched carefully to prevent mechanical obstruction), sweating, and marked fall in blood pressure, which are common with other anesthetics.

Patients who previously had seven or eight anesthetics stated that they experienced much less discomfort with tribromethylalcohol and preferred this type of anesthesia.

Hemorrhage during or immediately after operation has never been a source of concern.

Not a single patient has complained of rectal irritation, nor have the nurses recorded sanguineous or mucous discharge from the bowel. Three patients have had three successive tribromethylalcohol anesthetics within seven to ten days without untoward effects.

There has been no unusual delay in healing of the wounds, and the patients, generally, have left the hospital on the appointed day.

Dr. Charles S. White says: "In only 22 per cent was nausea or vomiting present. This is a very much lower percentage than we have had in ether or gas anesthesia. It is especially well tolerated in hyperthyroidism. In the presence of hyperthyroidism it has been suggested that the delayed elimination might be hastened by the administration of thyroxin. The dosage has been conservative, no effort having been made to complete anesthsia with tribromethylalcohol a'one, as this was deemed unwise and not without danger. Marked cyanosis has not occurred in any case. This is attributed to the fact that we used a light dosage, the patients have been watched carefully, and a c'ear air-way has been maintained at all times."

CONCLUSION

Anesthesia can be induced with tribromethyla'cohol in an almost ideal manner. Convalescence is more comfortable and there is less nausea and vomiting than with other general anesthetics. In our opinion, tribromethylalcohol has a definite place among the anesthetic agents now available.

A review of the foreign literature leaves one confused if an effort is made to evaluate tribromethylalcohol as a general anesthetic. When used alone for deep anesthesia, its use is attended with danger, but when used as a basic anesthetic, it is probably one of the safest agents for anesthesia. We feel that the use of tribomethylalcohol with gas or novocaine, combines in the highest degree excellence and safety in anesthesia.

We stress the fact that no anestheic is absolutely safe, and the same precautions should surround the administration of tribromethylalcohol that attend the use of anv other anesthetic. Carelessness will be penalized by morbidity and mortality. A conscientious regard for the safety of the patient demands the services of a well-trained anesthetist in every major operation.

DISCUSSION

DR. W. H. WOOLSTON, Albuquerque, N. M.: Personally, I have never used tribromethylalcohol. but have talked to men who have used it and they did not seem very enthusiastic about it. Anything that would improve our type of anesthesia would be very welcome. Many peoplee with tuberculosis cannot undergo the ordinary general anesthetic. Spinal anesthesia is coming back into use again, and as far as my experience with it is concerned, it has been satisfactory. Sodium amytal has been used but resolves itself into a preliminary anesthetic.

DR. F. D. VICKERS, Deming, N. M.: I have been using tribromethylalcohol and have been most favorably impressed with it. Dr. Travers has certainly covered the ground very thoroughly in his paper. However, I do not think its use is entirely free from danger. I had one case recently where I did not give a full dose. We were all ready to begin the operation and found the patient had stopped breathing. We had to do artificial respiration and finally brought her back all right, but did not operate. I once had the same experience with ether in a tonsillectomy case. I had a tuberculous patient recently, with acute appendicitis, and performed operation under gas oxygen. She went to sleep, appendix was removed and she was carried back to her room, where she slept two or three hours.

DR. E. F. FRISBIE, Albuquerque, N. M.: I should like to ask Dr. Travers how tribromethylalcohol compares with sodium amytal.

DR. TRAVERS (closing): I believe if Dr. Woolston would give tribromethylalcohol a trial, he would be pleased with the results. As a rule, within twenty minutes after its use, the patient is sound asleep. Sodium amytal will not put one to sleep so easily.

A RESUME OF DIET THERAPY

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(Read before the New Mexico Medical Society, at its Forty-Ninth Annual Session, at Albuquerque, N. M., May 20-22, 1931.)

In conducting a tuberculosis sanatorium where the attending staff doctor is not only physician to his patient, but also host, and has the responsibility and absolute control of all the minor activities and details of the patient's daily life, one cannot help but feel impressed and become interested in the numerous fads, fallacies and vagaries of diet.

Science and research are adding daily to our knowledge of diagnosis, treatment, and the diet of the sick. Our progress is so rapid that it is difficult to keep in touch with it all. Especially intensive is the inquiry in the field of nutrition. In many dietary cases, as well as in the entire medical field, we can proceed with a certainty today which a few years ago was purely experimental. At the time of the ancients, the sick were taken to the public bath or pool, or to the important highways, and left there so that passers-by might offer advice and counsel. And even today the average patient is the recipient of much advice—far too much—on the part of friends and relatives.

When primitive man's use of reason had progressed to such a stage where he was

able to supply himself with plentiful quantities of food, he began to be particular, and his troubles as a result of faulty diet started. Today, with our civilization and its sedentary occupations, these troubles have multiplied. Professor Evvard, experimenting with hogs at the Iowa State College, found that if various grain and mineral rations were placed in open bins accessible to the hogs, they would themselves choose the ones that gave optimum growth and development. Unfortunately, man is governed chiefly by his desires and he usually does not choose so wisely. Then, today, he is constantly bewildered by the food faddists and others who have something to sell. Sometimes, though, it is the physician who errs, as is evidenced by the not uncommon occurrence of scurvy in gastric ulcer patients, who have been put on a pasteurized milk diet.

The yeast fad is an outstanding example of the distortion of partial truths into misleading statements, and of the vitamin hysteria with which we are afflicted. The yeast companies of today emphasize the need for vitamins B and D in the dietary, and recommend the use of yeast three times a day for nearly every human ailment. The fact that yeast may be beneficial in some conditions is definitely established, but, since these vitamins are found to be plentiful in the average dietary, surely it is unnecessary to recommend the indiscriminate use of yeast as a panacea. Much can be said about the vitamin fad which is so popular today, but I can best quote from a recent article by Dr. Alvarez: "The future historian of medicine is going to be somewhat puzzled when he comes to write up the story of the vitamin mania of the twentieth century. He will wonder what could have so frightened the dietitians that they should have behaved each day as if a moment's relaxation of vigilance would plunge all their adult patients into the throes of scurvy, beriberi, pellagra, and xerophthalmia.

"Perhaps one reason they fear these diseases is that they never have seen them and do not know what they are.

"Strange as it may seem, there is no shadow of an excuse for giving roughage when one wants to supply vitamins or chemical elements. One can get more than enough vitamins 'A' in butter, more than enough of the two 'B's in a little yeast or extract of wheat kernel obtainable in a drug store, more than enough 'C' in a little orange, and more than enough 'D' in a little tablet of concentrated cod liver oil or irradiated ergosterol.

"Iron may be obtained in many foods besides wheat and spinach. Even the green chlorophyll of plants now can be obtained in tablet form, so there is no real need for the appearance each day of spinach on every sick tray in ever hospital in the land.

"In most cases, as when a patient is going to be in the hospital for two or three weeks after an operation, it is only a thoughtless or ignorant person who would worry about the vitamin content of the diet. Every one who eats sensibly has enough vitamins stored in his body to tide through a few weeks or even months of semi-starvation."

Then we have those who believe that pork is so indigestible. It is interesting to note that beef leaves the stomach in two and a half to three hours, regardless of the method of preparation, and that pork and lamb leave the stomach in about the same time. In Europe, the prevalence of pork trachina is very high and it is considered an unhealthful meat to eat because of this. In this country, trichinosis is almost unknown, due to our excellent inspection of meat by the United States Department of Agriculture, and to our methods of cooking. Next, the notion has spread that pork is unclean meat because one frequently sees pigs being fed slop and living in filthy sites. The fact is, however, that the chicken is frequently dirtier than the pig.

It is true that some people do not digest fat well, and cannot tolerate pork. Because one member of a family cannot eat pork, the rest frequently think that it is unhealthful also for them.

The "dangerous food combinations," or the "acid starch" danger theory still has its promoters despite the fact that there never has been the slightest proof that foods, when taken alone, can be more harmful than when taken together in any combination. The adherents of these theories believe that harm may come from combinations of starch foods, such as cereals, with acid fruits, and believe the theory that acid prevents the starch-splitting action of saliva, despite the fact that there has never been the slightest proof that fruits, such as orange or grapefruit eaten with cereals and milk, are harmful. Nor is there any scientific reason for restricting the diet or avoiding the acid fruits in connection with the use of calomel.

In the same category are those who expound on the harm that comes from the mixture of protein and starch foods, despite the fact that meat and potatoes have been for generations the most important items of our diet, and we as a race seem to have thrived fairly well on it.

Another popular misconception is that

fresh vegetables are better than canned. Recent work has shown that canned vegetables and fruits are better than fresh vegetables and fruits as cooked by the average housewife. The canneries are usually located close to the source of supply, so that the vegetables can ripen in the normal way. Then they are put in the individual can, with water added, sealed, and cooked in the vacuum, which does not require such a high temperature, and which prevents oxidization. The housewife, on the other hand, usually gets them from the market too ripe or not ripe enough, and then she adds a lot of water and cooks them. This cooking at room atmospheric pressure destroys the vitamin, and then the cook frequently throws away the water which contains the minerals, so that, when her dish is put on the table, it is mostly cellulose and most of the minerals and vitamins are gone.

The propaganda for whole-wheat bread still flourishes. Its advocates attribute many of the ills of mankind to milling of the grain which removes the bran. They assert that white bread is thus deprived of important vitamin constituents, ignoring the fact that these elements are supplied when bread is made with milk and eaten with butter, and in other constituents of the diet. Today, the necessity for the use of bran is over-emphasized. Bran is indigestible and irritating. Too much of it will produce a colitis. As a constituent of the diet it is not necessary for the well nor ideal for the sick. The cellulose of cooked vegetables has much more to commend it.

Cooked foods are more digestible. Cooking of vegetables causes the starch cells to burst, under the influence of heat, and so permits a more ready access of the digestive juices to the starch. Breads and cakes are made light by the expansion of the contained gases, and the water vaporizes to make the mass still lighter. While this reaction is going on, the albumins coagulate and fix the bread in this light state. The carbohydrate on the surface is partly caramelized, which gives the whole a more attractive appearance and flavor, and thus makes it more digestible.

Hot breads are usually considered to be indigestible but are well borne if they are light, well made, and eaten slowly. This is also true of pies, if the crust is crisp and not soggy.

When meat is cooked, the connective tissue is loosened, making the meat more easily chewed and more easily accessible to the digestive juices. Excessively prolonged cooking, however, has just the opposite effect.

Fats and oils in moderation are ordinarily well borne. Fried foods are usually well digested if they are fried in "deep fat," which quickly produces a crusty coagulum on the surface and so prevents the penetration of fat to the interior of the food. If they are soaked in grease they are indigestible because the fat prevents ready access of the digestive juices.

Mineral oil, which is commonly used for constipation, is indigestible and acts as if the food were fried in thick cold grease.

Cheese, if eaten slowly at mealtime as a protein food, is easily digested. Its reputation for indigestibility has been established by the fact that it is ordinarily eaten late at night, between meals, or at the end of a heavy meal, when the full amount of protein has already been taken.

Candy and concentrated sugar solutions irritate the stomach and interfere with secretory and motor activity. If taken in small amounts at the end of a meal they do no harm and give one a feeling of satiety.

A cup of tea and a cup of coffee contain approximately the same amount of caffeine, and are objectionable because of this caffeine. It is also possible that the aromatic oils in coffee may be irritating to the stomach, but there has been no proof that either tea or coffee in moderation is harmful for a normal individual.

Chocolate contains the bromine, which is closely related to the caffeine in tea and coffee, and is irritating to the gastro-intestinal tract.

Another much discussed question is whether one should or should not drink water with the meals. Drinking fluids with one's meals usually means that the food is eaten hastily, and is not chewed well, and so is not desirable with ptotics. With a normal individual, however, a moderate amount of fluid at a meal would seem to be desirable because the digestive enzymes work better in diluted fluids.

In discussing specific diets it is best to consider first the normal and then proceed to the diets in disease.

The calories required by the average normal adult, when at rest, are about 25 per kilogram body weight. In general, the average man weighing approximately 154 pounds needs 1750 calories daily to keep him alive, 2100 to 2450 calories at rest, 2800 to 3150 for light exercise, and 3500 to 4200 and up for laborers. Women need approximately 500 calories less. As a rule it is not necessary that a person's requirement be estimated to a nicety, and if the diet approximates the above requirements it will be satisfactory.

The necessary substances in a normal

diet, their best sources, and the results of failure to supply the necessary substances in a diet are best shown by the following table:

ADEQUATE DIET

Substances essential in an adequate diet:	Some foods which may be considered sources of these essential substances.	Some effects of the lack of these essential substances:
Oxygen	Air.	Failure of the nerves to function—fainting.
Water	Water, milk, beverages, almost all foods.	Thirst, renal impairment, dehydration fever.
Proteins (Amino acids)	Milk, meat, eggs, legumes, grain, animal protein. The second best source is nuts, peas, beans, lentils (legumin) cereals, soy beans. The vegetable proteins must be supplemented with milk, however.	Failure to grow; loss of weight; lowered stamina and vitality.
Carbohydrates	Starches, sugars, syrups, grains, tubers, fruits, milk, honey, molasses (also contains minerals), flour, cereals, grains, bread, macaroni, tapioca, cornstarch, cakes, cookies, pastry, potatoes, dried fruit, canned fruit, bananas, grapes, and plums.	Lack of energy for work and growth.
Fats	Butter, lard, egg yolk, fat meat, vegetable oil, margerines, milk, oils, cream, cod liver oil, salt pork, bacon, suet, and other cooking fats, fish, nuts and olives.	Lack of energy for work and growth.
Minerals	Milk, outer coat of grains, green leaves, meats, mineral mixtures.	The following three chief functions of the minerals are interfered with:
Iron	Red meats, visceral organs (liver, kidney, and stomach), green vegetables, egg yolk, molasses, dried fruit and whole grain.	(1) They contribute overwhelmingly to the supporting framework of the body, the bony structure.
Calcium	Milk, cheese (100 grams contains .930 grams), oatmeal, peas, beans and lentils.	(2) They take part in the formation of many organic compounds, such as nucleoproteins and phosphatids and thus form an integral part of the cell structure; every cell contains mineral elements.
Phosphorus	The phosphorus in the diet will be all right if the calcium is.	(3) They circulate, in the body fluids in various combinations, in this way preserving the osmotic tension of the plasma necessary to life as well as regulating neutrality.
Cellulose or roughage	Fruits, vegetables, and whole grain primarily.	Constipation.
Vitamins:		
A	Butter, egg yolk, milk, green leaves, yellow grains, yellow tubers, liver and liver oils, cream, spinach, carrots, tomatoes,	Stunted growth, xerophthalmia, nervous symptoms, lowered resistance to colds, bronchitis, pneumonia, tuberculosis and other infections.
F	lettuce, cabbage, cauliflower, and cod liver oil.	
B	Outer coverings and germ of grains,	Polyneuritis, beriberi, digestive disturbances, and pellagra.
G	yeast, tubers, milk, eggs, fruits, leaves, fresh meat, whole grain, vegetables, yeast and liver.	
C	Fresh fruits, fresh leaves, fresh tubers, milk, tomatoes and citrus. It should be remembered that this vitamin is destroyed by cooking and pasteurizing.	Scurvy.
D	Codliver oil. egg yolk. milk from cows receiving direct sunlight, eggs from hens receiving direct sunlight, substances irradiated with ultra violet light. Ultra violet light will cause the development of this vitamin in the animal body.	Rickets, failure to utilize calcium and phosphorus of food, resulting in nerve, muscle, and bone disorders. Predisposed to tuberculosis, especially the bone type.
E	Grains, especially wheat germ, liver, leaves.	Anemia, sterility, paralysis in young.

From the practical standpoint, the normal daily diet should contain one pint of milk, two servings of green vegetables—one raw, one serving of fruit raw, two servings of protein foods and of foods from the carbohydrate and fat group.

In attempting to compute any diet it is necessary to have a table of food values similar to that of Joslin and others as follows:

Foods arranged approximately according to content of carbohydrates:

5%		10%	15%	20%
Reckon average carbohydrate in 5% veg. as 3%, of 10% veg. as 6%.				
1%-3%	3%-5%	10%	15%	20%
Lettuce	Tomatoes	String Beans	Green Peas	Potatoes
Cucumbers	Brussels Sprouts	Pumpkin	Jerusalem Artichokes	Shell Beans
Spinach	Water Cress	Turnip	Parsnips	Baked Beans
Asparagus	Sea Kale	Kohl-Rabi	Lima Beans (very young)	Green Corn
Rhubarb	Okra	Squash		Boiled Rice
Endive	Cauliflower	Beets		Boiled Macaroni
Marrow	Egg Plant	Carrots		
Sorrel	Cabbage	Onions		
Sauerkraut	Radishes	Green Peas (very young)		
Beet Greens	Leeks			
Dandelions	Strong Beans (very young)	Strawberries	Raspberries	Plums
Swiss Chard	Broccoli	Lemons	Currants	Bananas
Celery	French Artichokes	Cranberries	Apricots	Prunes
Mushrooms		Peaches	Pears	Ice Cream
		Pineapple	Apples	
		Blackberries	Blueberries	
		Oranges	Cherries	
Ripe Olives—(20% fat).				
Grapefruit				

1 gram protein .....4 calories
1 gram carbohydrate .....4 calories
1 gram fat .....9 calories
6.25 gram protein contain 1 g. nitrogen.

1 kilogram=2.2 pounds.
30 grams (g) or cubic centimeters (c.c) =1 ounce.
Household measures:
1 flat teaspoonful=5 grams.
1 flat tablespoonful=15 grams.
1 heaping tablespoonful, cut meat or fish=30 grams.
1 water glass full=250 grams.
1 egg weighs 50 grams.

A patient "at rest" requires 25 calories per kilogram body weight.

30 Grams 1 oz. Contain app'xm'tly	Carbohydrates g.	Protein Grams	Fat Grams	Calories
Vegetables 5%	1	0.5	0	6
Vegetables 10%	2	0.5	0	10
Shredded Wheat (6 triscuits)	23	3	0	104
Uneedas, two	10.	1	1	53
Potato	6	1	0	28
Bread	18	3	0	84
Oatmeal dry wt.	20	5	2	118
Oysters, six	4	6	1	49
Milk	1.5	1	1	19
Meat (cooked, lean)	0	8	5	77
Fish	0	6	0	24
Chicken (cooked, lean)	0	8	3	59
Egg (one)	0	6	6	78
Cheese	0	8	11	131
Bacon	0	5	15	155
Cream, 20%	1	1	6	62
Cream, 40%	1	1	12	116
Brazil Nuts	2	5	20	208
Butter	0	0	25	225
Oil	0	0	30	270

Foods Without Food Value. May be taken as desired: Agar agar, Clear Coffee, Cocoa shells, Mineral oil, Starch free bran cereal, Broth (skimmed), Clear tea, Cracked cocoa, Starch free bran biscuits, Thrice boiled vegetables.

DIET IN DISEASE

Diabetes: One of two procedures is indicated. First: An attempt should be made to cut down the potential glucose in the diet, and it should be remembered that protein and fat will give glucose. A normal diet can be given and the deficiency made up with insulin to take care of the carbohydrate and to keep the urine sugar free. The diet, or insulin, must usually be kept up forever.

Obesity: High carbohydrate and fat should be left out and green vegetables of 5 per cent carbohydrate group, as lettuce, cucumbers, spinach, asparagus, sauerkraut, celery, tomatoes, cauliflower, eggplant, string beans and so forth, should be supplemented.

Underweight: The diet should be a normal diet, plus carbohydrates and fats, as milk, sugar, frosted cakes, cheese and crackers, peanut-butter. It is interesting here to note that obese patients seem to be better satisfied with three regular meals, rather than frequent feedings.

Spastic Constipation: This should be a normal diet, except that the roughage or cellulose is broken up by cooking and the fruits, and so forth, pureed.

Atonic Constipation: The diet should be a normal one plus increased vegetables and fruits. Green vegetables, or roughage, at supper helps for a bowel movement in the morning.

Stomach Ulcers: This diet should be similar to the one used for spastic constipation, the attempt being to prevent mechanical irritation. Vitamins B and C are important, and in order to be sure that they are plentiful, strained diluted orange juice and dried yeast should be taken.

Pernicious Anemia: A normal diet plus large amounts of liver. The liver must be kept up forever.

Secondary Anemia: A normal diet with plenty of eggs, red meat, and vegetables.

Nephritic: A normal diet, but limit the salt, and the proteins should be low. Never give a nephritic a salt shaker at the table.

Nephroses: Give a high protein diet.

Pregnancy: A normal diet with plenty of milk, fruit and vegetables. Milk supplies calcium, phosphorus, and a good quality of protein in addition to the vitamins, and so forth. One should have a quart of milk in addition to the normal diet, daily.

Ulcerative Colitis, Dysentery, Diarrhea: The diet should be low in roughage, that is, fruits, vegetables, whole grains, cereals, bread. Should have liver, strained orange juice, strained fruits and vegetables. Proteins should be increased with eggs, meat and cheese. Fat and carbohydrates should be decreased. Sugars ferment and form gas. Avoid tea and coffee, spices, and foods that are either too hot or too cold

Allergy, Hypersensitiveness, Idiosyncrasy: The diet should consist of rice, beef, butter, and sugar for a few days until symptoms are gone. Then gradually add other articles and watch for symptoms.

CONCLUSION

In computing diets, it is best to determine first the normal and then add or subtract individual items as necessary for the case under consideration.

The caloric requirements need not be calculated to a nicety, and from the practical standpoint, the normal daily diet for an adult should contain one pint of milk, two servings of green vegetables, one raw, one serving of fruit, raw, two servings of protein foods and of foods from the carbohydrate and fat group.

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DISCUSSION

DR. CURTIS ROSSER, Dallas, Texas: I should like to have an opportunity to discuss this paper because I think it is a well balanced one and because I feel that no paper along these lines should pass without some discussion. Apparently the exciting spur in the great human race is a three-fold collection of S's—spirits, sex, sustenance. The search for sustenance is a continuous spur and brings with it the problem of what to eat. There have been some very important scientific investigations made in connection with the subject of diet, but along with them there has been a hook-up of commercial interests. The question of diet has become as much a commercial item as Christmas is with the department stores. Most of us do what the advertisements and magazines tell us to do, and therefore we are on a diet ranging from sunkissed oranges to all kinds of bran and yeast. As a matter of fact, Battle Creek is probably responsible for the origin of much of this advertising campaign, but what is good for the king's horses is not necessarily good for the king's men. Mother may have made you eat carrots back in the old days and now the wife makes you eat spinach, and now we take a Lucky Strike instead of a sweet. Last month the Texas Legislature put a tax on cigarettes and now we will have to go back to the sweets. These fads do not seem to accomplish anything except perhaps some of our patients are getting too much dieting, especially along certain lines, and in my opinion we are going to have to fight to keep this thing down.

DR. R. O. BROWN, Santa Fe, N. M.—I found the paper very interesting indeed and think that there is a great deal of misapprehension as to what to do when we put food in our mouths. The greatest error that is indulged in is not in eating insufficiently, but in very frequently eating far too much. I have been very much interested in the work of the Sansom group at the Santa Barbara Hospital, and to my mind their theory seems to

work out better than anything else in connection with a properly balanced diet.

DR. S. L. BURTON, Albuquerque, N.M.: I was very much interested in Dr. Gellenthein's paper and in Dr. Rosser's talk. I think we are all guilty of not doing what we should do in assisting our patients to diet, but I think we shoulld use judgment in showing them what they should eat and seeing that they get it in the right proportion.

DR. GELLENTHEIN, in closing, related incidents in connection with the introduction of cocoa and other foods in bygone days.

INJECTION TREATMENT OF VARICOSE VEINS.

J. L. MURPHY, M. D.
El Paso, Texas

(Read before the El Paso County Medical Society, El Paso, Texas, May 25, 1931.)

The purrose of my paper may be briefly summarized as follows: First, to present the past and present knowledge of the injection treatment of varicose veins; second, to enumerate the solutions most commonly used at the present time; third, to outline the technic of the injection method; fourth, to summarize the indications and contra-indications to treatment; fifth, to emphasize the rationale of this method of treatment; and last, to emphasize its practical use.

In discussing the history of the injection treatment of varicose veins, it is only necessary to go back as far as the history of the hypodermic syringe. In 1945 Rynd, a French physician, introduced the syringe as a method of administering medication hypodermically and intravenously. In 1853 it was Pravaz who popularized the syringe method of administering medicine and who was the first to observe the obliteration of veins by injection of caustic solutions. He, in collaboration with Chassaignac, did considerable work of obliterating varicose veins with ferric chloride solution, which was indeed very irritating and not altogether satisfactory. Among the other solutions used by various men of the times were iodo-tannic liquor, red iodide of mercury, tincture of iodine, five per cent alcohol and five per cent phenol. It must be remembered that this was the time when Pasteur and Virchow were just introducing bacteriology and pathology; hence, asepsis was practically unknown and hazardous comp'ications, such as sloughs, thrombosis, gangrene, embolism and septicemia, were common. This then led the Surgical Congress of Lyon in 1894 to hold the method too dangerous and impracticable. Little more work was done upon the subject until 1911, when Blum, in treating diabetic coma with intravenous injections of sodium bicarbonate, observed the obliteration of veins without inflammation, pain, or embolism. From this time until 1921 the injection treatment of varicose veins may truly be said to have passed through its renaissance. Lisner, in the treatment of syphilis, noticed that mercuric chloride gave satisfactory obliteration of veins, and in 1922 he changed to sodium chloride because mercuric chloride in large doses gave systemic reactions. Sodium chloride at the present is in very common use. During the war, it was Sichard who put the injection treatment on a rational basis, and to him must be given credit for the restoration of a very valuable surgical procedure which was started by Pravaz some seventy years before. Sicard's observation resulted from the use of alkaline solutions with their excellent sclerosing properties in the veins of the arm. In 1921 he introduced sodium salicylate, which is also a very commonly used solution at the present time. By 1924, he reported thousands of cases and no fatalities. The results of these French workers soon spread to England, Sweden, Austria, and this country. Forestier, in 1928, reported five thousand cases of varicose veins treated with various solutions and no embolism or fatality resulting. At the present time many clinics in this country have entirely done away with operative measures and are using altogether the intravenous method.

In order to understand this method of treatment we must briefly recall the anatomy and physiology of the circulation in the lower extremities. First, the histology of the vein wall itself should be recalled. There are three distinct layers composing the wall: namely, the intima, with its cuboid epithelium and underlying elastic membrane; second, the media, which is composed mostly of smooth muscle and some fibrous element; and, third the adventitia, which is composed almost entirely of fibrous element. The media, in a normal vein, is the thickest layer. In the varicose vein, the smooth muscle of the media is almost entirely lost. Next, we must understand the venous drainage of the leg. It will be recalled that there are two systems of veins: first, the deep, comprising the tibials, the popliteal and the femoral from below upward; second, the superficial, with the long and short saphenous. Between these two systems there are anastamosing branches numbering four to six. In the deep, the superficial, and the anastamosing branches, there are found valves with their free edge directed upward. In the long saphenous alone, it is estimated, there are from six to twelve valves. The deep circulation, by virtue of its position in the muscles and fascia of the leg, prevents varicosities, while the superficial, located as it

is in the subcutaneous fat, is less well supported and more prone to their formation.

In spite of the various theories of the etiology of varicose veins, there is very little definitely known at the present time. There are many factors which are known to be associated with the formation of varices, but no one condition explains the whole story. First, the infection theory is held by many because it is common knowledge that varicose veins often develop after prolonged generalized infection, such as typhoid, diphtheria, pellagra, influenza, and many other debilitating diseases which tend to lower the tone of the blood vessels. To the pathologist, it is common knowledge that there is a mild periphlebitis in varicose veins and the conversion of the smooth muscle to fibrous tissue. It is believed that the infection, or the toxin from the infection, first involves the valves and secondly the walls of the veins. The next theory, introduced by Sicard, is that the endocrines, especially the ovary and thyroid, play a part in the causation of varicose veins, since they are so frequently associated with pregnancies and the menorause. Against this theory, the administering of the various endocrines has not cured or limited the formation of varices. It is common knowledge that pelvic tumors, with their resulting pressure upon the iliac veins, do cause enlarged veins of the legs. Too, varicose veins are often associated with other things which increase the intra-abdominal pressure, such as coughing in chronic bronchitis. The theory of mechanical obstruction from tight bands, such as garters, seems to be the least important. Age incidence is as follows: From twenty to thirty, 18 per cent; from thirty to forty, 27 per cent; from forty to fifty, 24 per cent; and from fifty to sixty, 16 per cent. As to sex, the occurrence is equal up to the age of twenty and after that it is four times more common in the female than in the male. Heredity has played a part in from only 6 to 10 per cent of the cases. Occupations requiring standing in one position for long hours, such as barbers, clerks and so forth, seem to be an added factor.

To understand the mechanism involved in the production of varicose veins, we must also understand the physiology of the circulation in the legs and its variation from the normal, with the resulting pathology. Normally, both the deep and superficial venous system drain blood from the extremity toward the heart. The deep circulation is aided in its work by the negative abdominal pressure, as a result of respiration, plus the pumping action of the muscles in the leg. The superficial, on the other hand, which is supported by fat, must depend entirely upon the negative abdominal pressure. Hence, under normal conditions, when the valves of both systems are functioning perfectly, it is easily seen that the deep circulation is by far the most efficient. Let us suppose now that the valves in both systems are destroyed by some disease process, then in the superficial circulation, having only the negative abdominal pressure to assist it, and with no valves in the inferior vena cava or the iliac veins, there will be a column of blood extending from the foot to the right auricle of the heart. This proves too much for the superficial circulation, and the walls of the vein must distend to compensate. The result is a reversed flow of blood in the superficial circulation and the blood finds its way from the superficial to the deep circulation by means of the communicating branches, and must be carried back to the heart by the deep valves. But in part, at least, this same blood is spilt back into the superficial circulation again at the saphenofemoral junction. Then we have a reversed flow in the superficial circulation of blood which is poorly oxygenated. This leads to malnutrition of the tissues, especially in the lower leg, which lymphatic edema and later sclerosis and lowered resistance to infection. It is necessary now only to receive a slight injury, and a varicose ulcer is the result. McPheeters, of Minnesota, who has done considerable work on the injection treatment of varicose veins, has proved this reverse flow by injecting lipiodol high in the saphenous and observing its course distally by means of the x-ray.

Since it is the purpose of this method of treatment to form obliterating thrombi in the lumen of the veins, it is only logical that one of the greatest criticisms against this method would be the production of emboli. But with this explanation and proof of the reversed circulation in the veins so treated, one can see that any emboli formed, instead of going to the main circulation, would travel distally into a small section of the vein and would have to pass through even smaller communicating branches between the two systems of veins before they could get into the general circulation. These emboli have been found, in pathological sections, to have lodged in the various branchings of the veins distal to the point of thrombosis.

In the consideration of the various solutions, I have mentioned in the history strong caustic solutions, which soon met their death. The following is a list of the more common solutions in use today, in their order of importance, as used by McPheeters. First, calarose, which is an invert and cane

sugar; second, quinine and urethane; third, invertose, 50 to 70 per cent solution; fourth, sodium salicylate, 20 to 40 per cent solution; and, fifth, sodium chloride, 20 per cent solution. Sodium chloride is very irritating and when injected outside of the vein it gives a slough. It is used chiefly in the larger varices, where thrombosis is difficult with the more mild solutions. Glucose and other sugar solutions are not as effective and give intense cramp from three to five minutes following injection. An equal mixture of 20 per cent sodium chloride and 50 per cent glucose, I believe, is the most efficient and practical of all the solutions. Quinine and urethane are very effective and painless, but only 2 c.c. can be given at a single time due to its systemic effect.

Before any injections are attempted, one must first test the circulation of the leg, for this we have the so-called Trendelenburg test. This is merely a test of the presence or absence of the reversed flow in the saphenous. The patient is asked to stand and the varices are noted. Then the patient is asked to lie down and the leg is elevated to drain the superficial system. Pressure is now made over the sapheno-femoral junction sufficient to block the saphenous body, and then the patient is asked to stand. If the vein fills slowly, say in 20 to 30 seconds, the Trendelenburg test is negative for we do not have a back flow, but, instead, the saphenous is filled naturally. This also proves that the valves in the communicating branches are functioning. Next repeat the experiment, relieve the pressure over the saphenous quickly and if the vein fills suddenly, in from 5 to 10 seconds, the Trendelenburg test is positive because the blood is draining backward from the femoral vein into the saphenous and a reverse flow is in evidence.

The injection treatment of varicose veins is definitely contra-indicated when it is proved that for any reason the deep circulation is not functioning, so we next apply a tight bender bandage over the varices, thus depleting the superficial circulation, and ask the patient to walk briskly for a few minutes. If there is no cramping or aching, we know that the deep circulation is functioning and the obliteration of the superficial circulation is justified. This test is called the Perthe modification of the Trendelenburg.

The technic of the injection method is something that must be worked out by the individual clinician, but the clinician must understand the pathology of varicose veins in order to develop a technic that is logical and effective. A thorough history and physical examination of the patient must be done first, or we will make grave mistakes, as will be seen later in the contra-indications to treatment. Next, the patient is asked to stand, exposing both legs so that the varicosities are in plain view. The following technic is that used by McPheeters. The entire leg is bathed in alcohol and the more prominent varices are marked with mercurochrome or iodine. The patient is next placed on the table and the injections begun from below upward. Two tourniquets are applied, about six inches apart, after the leg has been elevated and the veins depleted of their blood. The needle is introduced and the solution injected in sufficient amount moderately to distend the vein. The needle is left in the vein from three to five minutes, or until the solution has had time to act upon the intima. If the needle is withdrawn too quickly, some of the solution may leak out and cause a slough, or if the needle is withdrawn quickly and pressure is applied over the site of its introduction, the solution that has been injected will be pushed away and become diluted with blood, and our purpose defeated. Next, a small gauze sponge is placed over the site of the injection and an adhesive plaster over this, to hold it snugly in place. The number of injections varies with the clinician, but McPheeters likes to inject all the varices at one time. After he has injected all the varices between the two tourniquets, he applies another tourniquet six inches higher and continues his injections. After the entire leg has been injected, he raises the leg high to drain out any excess of the sclerosing solution, so that it will not get into the deep circulation and cause thrombosis there. The entire leg is then supported from below upward with an elastic Ace bandage. He then asks the patient to walk for a few minutes. This also aids in relieving the deep circulation of excess solution due to the pumping action of the muscles on the veins. In three or four months, he has his patients come back so that any scattered varices may be taken care of.

The armamentarium for this method of treatment is very small. All that is necessary is a 5 to 10 c.c. syringe, which can be easily manipulated with one hand, a 21 to 25 gauze needle, varying with the type of solution that is being used (the needle should be about ¾ to 1 inch in length, of a short bevel and very sharp), two tourniquets, two or three Ace cotton elastic bandages, and a few gauze sponges.

The indications and contra-indications vary with the physician, but it is generally conceded that all varices can be treated by

this method where the general condition of the patient permits and when the deep circulation is sufficient to carry all the returning blood from the extremity. Some of the more common contra-indications are as follows: First, the history or the presence of an attack of acute thrombo-phlebitis, which has destroyed the deep circulation; second, chest or pelvic pathology should be eliminated, if present, before treating the veins; third, varicose veins associated with elephantiasis should not be treated, due to the already poor circulation associated with the elephantiasis; fourth, treatment is also contra-indicated, or should be carefully guarded, in the arterio-sclerosis of the aged, in cardiac decompensation, hyperthyrodism, and in latent tuberculosis; and fifth, it is definitely contra-indicated in thrombo-angitis obliterans. In diabetes, the diabetic condition should be taken care of first, or gangrene might result.

Earlier in this discussion I mentioned the mechanism of ulcer formation. It is past the limit of this paper to discuss in full the treatment of varicose ulcers. Briefly, ulcers respond very favorably when supportive and injection treatments are carried out together. The ulcer is first treated with 10 per cent silver nitrate and covered with a gauze saturated with some antiseptic ointment, preferably containing zinc oxide. Over this is placed a large sponge and this is snugly compressed with an ordinary gauze bandage to hold it in place. The entire foot and leg is then supported with an Ace bandage and, at a later date, varices in the region of the ulcer are injected. This method is far superior to any of the various surgical procedures previously used.

It is only left now to discuss the safety and rationale of this method of treatment in comparison with operative measures. McPheeters, from questionnaires sent out to surgeons over all the country, received the following data: Out of 6771 operative cases, there were 35 deaths from postoperative pulmonary embolism, or .53 per cent, and 37 non-fatal cases. The average stay in the hospital was 15.1 days. On an average the patients resumed their work in 34.8 days. A check up as to recurrence at the end of one year showed 5 per cent, and at the end of five years, 19.2 per cent. In comparison with this, out of 53,000 cases treated by the injection method, there were only four fatalities, or .00754 per cent as compared to 53 per cent from operations. This is exactly seventy times less. As to recurrence, Kilbourne, of Los Angeles, collected the following data from questionnaires: Out of 1400 operative cases, there was 30 per cent recurrence, while the average recurrence after the injection method is only 6 per cent, or one-fifth that after operation.

The complications may be briefly summarized as follows: First, embolism, which we have just discussed; second, sclerosing phlebitis, which, after all, is not a complication but a desired effect because it obliterates the entire saphenous and has never caused a fatality as far as is known. In this condition there is some tenderness and pain over the saphenous but this usually disappears in a few days, if there is no infection. Third, an acute thrombo-phlebitis is a complication due to poor technic. When this condition arises it must be dealt with in the usual manner. Fourth, sloughs, another break in the technic, likewise treated in the usual manner. Fifth, septicemia is a rare complication not nearly as common as following operative methods.

In conclusion, there are many factors favoring the injection treatment over the operative, on behalf of both the patient and the surgeon. The patient is subjected to less risk from fatal sequelae if he is in careful hands; the treatment allows him to be ambulatory and, away from his work but a few days at most; it is far less expensive since hospitalization is not necessary; and, lastly, recurrences are much less common. On the other hand, the surgeon is assured of less worry from embolism and septicemia, the method requires less time than dressings following the operative treatment, and he is assured of more permanent results and greater satisfaction on the part of his patient. It is true that this method of treatment is new to most of us and is not as simple as it may seem. But from the standpoint of physiology and pathology, it is logical and since it can be carried out in the office, it is practical, so, with the development of a careful technic, I believe it will become a more universal method of treatment of varicose veins and will largely replace operative measures.

At the American Medical Assoacition Convention held in Philadelphia on June 8-12—visiting physicians noticed among the familiar exhibits, an attractive display of Cocomalt, the delicious chocolate flavor food drink. Cocomalt was served daily to the visiting physicians. The Cocomalt booth was one of the most popular booths at the Convention. The physicians took advantage of the opportunity to have samples of Cocomalt forwarded direct to their homes and offices.

Readers of this journal are well acquainted with Cocomalt and what it will accomplish. Cocomalt is an easily digested nourishing food that is as valuable for adults as it is for children.

REVIEW OF LITERATURE AND SOME SUGGESTIONS ON SEPTIC SORE THROAT

M. B. CULPEPPER, M.D.
Carlsbad, N. M.

(Read before the New Mexico Medical Society, at its Forty-ninth Annual Meeting, Albuquerque, N. M., May 20-22, 1931.)

Definition: An acute infection of the tonsils and throat caused by the streptococcus group of bacteria and characterized by extreme swelling and soreness of the throat, enlargement of the cervical lymph glands and marked prostration. It is communicable, often appears in epidemic form, and is frequently spread through milk. But probably the most common cause in this country is contact, as children congregated in schools, or people in assemblies contract it, and usually when one member of a family is affected, several or all of the family likewise have it.

Synonyms: Streptococcus angina, epidemic sore throat, streptococcic sore throat, glandular fever. The most applicable term is probably septic sore throat.

HISTORY

The relationship between an explosive epidemic of acute sore throat in sharply localized areas and the milk supply of such areas, has been recognized in England for many years. Savage has abstracted reports of eighteen such epidemics which occurred in England between 1880 and 1904 and one which appeared in Christiana which involved 548 reported cases and probably many unreported ones. In all of these epidemics there is reasonable evidence to suppose that the infection was spread by the milk supply, although the means by which the milk became infected was not discovered.

The first outbreak reported in America was the Boston epidemic of 1911, which involved fourteen hundred persons living in good residential sections of Boston and neighboring towns. It was studied by Winslow with the full cooperation of the dairy involved. It was found that 70 per cent of the cases occurred in the area of distribution of one branch of the dairy, while the customers supplied by a seccond branch of the same dairy escaped infection. Nine other large epidemics have since been reported and extensively studied. Limited epidemics of sore throat due to infected milk are believed to be far more common than is indicated by published reports, for in the smaller centers of population where laboratory facilities are not readily available they attract less notice and are less likely to be reported.

In our own southwestern territory, septic sore throat apparently made its appearance much later than in the east. Personally, I do not recall that I saw the disease before about 1925, and then it resembled diphtheria so much that it was only after laboratory tests that I was convinced of the difference. However, its causative factor was easily demonstrated by laboratory investigations, as the streptococci bacteria were very prominent in all examinations.

BACTERIOLOGY

Streptococci which are definitely hemolytic are frequently isolated from the throats of persons ill from epidemic sore throat and also from the infected milk. These organisms closely resemble Streptococcus pyogenes and are pathogenic for rabbits. Streptococcus lacticus, which is always present in milk, is non-hemolytic and is non-virulent for man and rabbits.

Streptococcic infections are relatively common both in men and cows. A milk handler may readily infect milk through coughing or sneezing. Such contaminations can account for an acute epidemic of several weeks' duration only when the infected milk handler continues at his work, which is unlikely unless he be a healthy carrier.

It is apparent that there must be some continued source of infection which is related to the milk supply. Mastitis is not an uncommon cause. Were the organisms of this disease pathogenic to man, milk would be almost constantly infected by milk handlers, which is not the case. In five of the American epidemics, a virulent Streptococcus hemolyticus, distinct from the bovine types of streptococccus, has been recovered from the infected milk. Davis found these practically identical with the cocci isolated from septic sore throat cases.

Davis and Capps have shown that hemolytic streptococci from sore throat produce mastitis when injected directly into the cow's milk ducts. This mastitis may be severe, leading to caked bag, or the organism may grow and multiply in the milk ducts without producing visible changes in the udder. Cows so infected produce milk which contains hemolytic streptococci and an increased number of leukocytes. The infections may persist over a long period in the form of chronic mastitis. These workers found that swabbing the streptococci around the meatus of healthy teats did not produce an infection, but if the teat were scarified, an ascending infection occurred, marked by an increase in the number of leukocytes and the presence of large numbers of streptococci in the milk. The organisms were still present at the end of four weeks.

One is led to conclude that the causative organism is a human strain of streptococcci which reaches the cow's udder, probably through the hands of a milker coming in contact with an abrasion on the teat. Subsequently, the milk from this cow infects the entire quantity of milk marketed.

These streptococci retain their viability in milk, cream and milk products. Ice cream. especially, has been found to preserve the organisms for at least three weeks without appreciable diminution in number or virulence. Cream contains more organisms than milk, since the bacteria cling to the fat globules. The organisms survive the flash method of pasteurization, but cannot withstand the usual method of pasteurizing at 145° F. for thirty minutes.

Instances have been recorded in the United States in which epidemics have developed from the milkman with a boil or lesion on his hand, and laboratory tests showed that the milk was not infectious until it had passed through the milkman's hands. Then, having become infectious, it produced septic sore throat. Upon removal of the milkman from his occupation, the epidemic would cease.

EPIDEMIOLOGY

The outbreaks are seasonal, occurring during the winter and spring. They are explosive in character, several members of a household often being stricken at the same time. The disease runs a course of one to three weeks. In most epidemics, the relationship to the milk supply seems definitely established. Further studies may show that other media may serve to convey the disease. Secondary contact cases occur, but are few in comparison to the original infection.

INCIDENCE

Age and Sex. Winslow found that children were less frequently affected than adults and that infants were almost free from the disease. Children of school age furnished a comparatively small number of cases, while young adults between sixteen and forty-five comprised more than half of the total. In my observation, those with diseased tonsils or tobacco throats have been most frequent sufferers, being much more unhealthy than those with more healthful throats.

SIGNS AND SYMPTOMS

The incubation period is short, from one to three days. The onset is sudden, with malaise, chills, dull headache, with rather gneral pains through the entire body and extremities and especially around the joints, lasting from one to two days, after which the body pains quiet. Then the soreness of the throat becomes a prominent symptom, attended with fever and headaches. After a few hours, exudate appears on the tonsils, at first grayish to a yellowish color and finally presenting the appearance of thick membrane, resembling that of diphtheria. This membrane is usually situated upon the tonsillar surface, not often spreading to surrounding tissues. Swallowing is painful throughout. Temperature rises and sometimes reaches as high as 104°, but usually is around 101° and 102°. This lasts from two to four days, about which time the exudate on the tonsil disappears.

Enlargement of the cervical glands is a very frequent accompaniment of this disease. Adenitis may appear early or after several days. The glands may be considerably swollen and very tender to the touch, but very rarely go on to suppuration. They may be palpable for weeks after the acute attack. A skin eruption is frequently present. It may be erythematous and closely resemble the rash of scarlet fever, or may show small hemorrhagic spots.

In milk cases the acute symptoms subside in from three to five days, but complications are common and relapses frequently occur, especially a recurrence of the tonsillitis after an interval of a week or ten days.

COMPLICATIONS

The most important complications are enlargement of the cervical lymph-nodes, erysipelas, otitis media, bronchopneumonia, arthritis, pleurisy, nephritis and endocarditis. Peritonitis, where postmortem shows no evidence of an appendicitis or intestinal perforation, is a part of the general septicemia. It has been noted in most of the epidemics and is one of the most frequent complications.

The persistence of foci of streptococci which later flare up, accounts for the arthritis, muscular rheumatism and endocarditis. Blood cultures in severe cases show the presence of streptococci. The cases occurring in an epidemic are apt to have more frequent and more serious complications.

DIAGNOSIS

The diagnosis of the individual case may present some difficulty until the explosive nature of the outbreak is recognized. Cases are found among those who are patronizing a certain milk dealer or who go to the same restaurants or ice cream parlors.

The glandular swelling, extreme swelling and soreness of the throat, the marked prostration and recurrence of sore throat after a drop in the fever, differentiate the condition from ordinary tonsillitis.

Appendicitis with rupture may be suspected when peritonitis occurs, but a laparotomy will reveal a peritonitis with the appendix intact.

Scarlet fever is not easily differentiated if the rash is severe, but the blanching test

is negative, there is no strawberry tongue, and the rash appears on the third or fourth day.

PROGNOSIS

The mortality in recent epidemics ranges from 2 to 5 per cent. The disease takes its heaviest toll from those over fifty-five years of age. Peritonitis is the most common cause of death.

The disability in mild cases continues from nine to ten days, but relapses and complications may prolong the disease indefinitely.

PROPHYLAXIS

Present evidence indicates that efficient pasteurization of milk and milk products, including cream and ice cream, will protect the consumer from a streptococcus infection. The cocci cannot withstand a temperature of 145° F. for thirty minutes. The flash method is not effective. Certified raw milk is not proof against streptococcic infection, as was shown by the Boston epidemic.

Every case of septic sore throat should be isolated with as much care as one of diphtheria or scarlet fever.

TREATMENT

Children who may present only mild symptoms should be kept in bed until all constitutional and local symptoms have disappeared. Small doses of aspirin or phenacetin can be given to relieve the pain and fever. It is doubtful if the benefit which may possibly result from the use of antistreptococcus serums is worth the pain and discomfort of the injection.

Local irrigations of the nose, pharynx and throat with large quantities of hot normal salt solution are of great benefit and are not disturbing to the child. Spraying or directly applying weak solutions of argyrol, mercurochrome, gentian-violet, and so forth, is of decided advantage in shortening the attack and relieving the throat. Older children can gargle with mild antiseptics or a saline solution, and the use of perborate of soda, or Vince. The application of warm poultices to enlarged glands is very beneficial, as well as soothing.

If diphtheria is suspected, the use of diphtheria antitoxin is advised, so that no time may be lost pending the report of the bacteriological examination.

PUBLIC HEALTH REGULATIONS

The Sanitary Code of the New York State Department of Health includes septic sore throat among the communicable diseases that must be reported to the local health officer. The report must be made within twenty-four hours from the time the case is first seen by the physician. Children suffering from this disease are excluded from school and gatherings. The length of time and other conditions are prescribed by the local health authorities.

DISCUSSION

DR. F. D. VICKERS, Deming, N. M.: In Deming last year we had more cases of sore throat than I had ever seen there before. We tried to trace them to a certain dairy but could not run down the origin. Dr. Culpepper's paper is very interesting to me and is very timely as well, and I want to congratulate him upon the able way in which he has set forth the facts.

DR. C. W. GERBER, Las Cruces, N. M.: In New Mexico, septic sore throat is considered a formidable disease. There is absolutely no reason why medical men should not send the specimen to the State Laboratory. There is no doubt but that septic sore throat is a serious condition. The death rate is a little higher than that Dr. Culpepper stated. The patients are often very sick—they look and act ill: the septic condition becomes rapidly intense. We have had a certain number of deaths in Dona Ana County from this cause and I should like to urge that cultures be taken in every case of sore throat, even follicular tonsillitis, which you may come across.

DR. CULPEPPER (closing): In regard to the death rate, it is probably somewhat larger than I stated in my paper. There might be some complications that I have not mentioned, glandular involvements and stiff neck, due perhaps to spinal lesions. I believe that is something we must work out, and agree with Dr. Gerber that a culture should be taken in every case.

MALUNION AND NON-UNION OF FRACTURES

JACOB E. SHEARER, M.D.,
Surgeon, U. S. Veterans' Hospital, Whipple, Ariz.

(Before the Arizona subcommittee of the Committee on Fractures of the American College of Surgeons at Prescott, July 11, 1931.)

Malunion and non-union of fractures is a very comprehensive subject about which much has been written. It is not my purpose to give a lengthy discussion of the subject, but to consider in a brief manner: (1) the outstanding causes of malunion and non-union; (2) the correct treatment of fresh fractures in order to prevent the occurrence of malunion and non-union; (3) the treatment of these conditions once they have occurred.

Fortunately, during the past few years, since the more extensive use of x-ray, better hospital equipment for handling fractures, and the development of a better understanding of the treatment of certain types of fractures, we are seeing fewer cases which result in malunion and non-union. However, they are still common enough to encourage further study of the cause of these conditions and to influence us to use every possible care in the treatment of fresh fractures to prevent their occurrence.

The process of union of fractures is not thoroughly understood. We do know that

the hemorrhage at the site of fracture, fragments of bone and periosteum, marrow substance, certain cellular, elements, and calcium and phosphorus salts, enter into the formation of callus and the repair of fractures. The manner of changes from the time of fractures to the time of union is not known and until they are better understood many questions in regard to non-union will go unanswered.

When is a fracture to be considered a non-union? Only when, after a satisfactory reduction has been obtained, all attempts at union have ceased, as shown by x-ray and examination.

OUTSTANDING CAUSES

The apparent outstanding known causes of malunion and non-union are closely associated and may be discussed together. They are: (1) inadequate reduction, (2) improper splinting, (3) fragments of muscles between bone fragments, (4) loss of bone, (5) interference with blood supply, (6) infection at the seat of fracture, (7) removal of splints before union is solid, or too early use of fractured parts without protection, (8) early massage and physiotherapy, (9) certain diseases of bone and general debilitating diseases, (10) lowered or deficient calcium and phosphorus content of the blood, (11) old age, (12) improper operative measures.

(1) Inadequate Reduction. Every fracture should be reduced as accurately as possible, because a perfect reduction places bone elements in correct approximation, equalizes the tension on the fragments, and increases the chances for union. A perfect reduction, however, is not necessary for union, as we often see union in unreduced fractures. Imperfect reduction does produce malunion and disability, and enhances the chances for non-union.

(2) Improper Splinting. This is one of the chief causes of malunion and non-union. A splint, to serve its purpose, must immobilize a fracture until union is solid. A splint which allows the fragments to become displaced or motion at the site of fracture, causes injury to the callus and destruction of the delicate newly formed blood vessels, ultimately resulting in malunion or non-union.

(3) Fragments of Muscle Between Bone Fragments. Union will not take place when muscle tissue is interposed between fragments of a fractured bone, until it is removed or destroyed by the pressure of the bone fragments, as callus will not penetrate muscle tissue.

(4) Loss of Bone. In compound, crushing, and gun-shot fractures, when a considerable amount of bone is destroyed or removed by debridement, non-union or malunion often occurs. It has been observed in fractures of the tibia without fracture of the fibula and in fracture of one bone of the forearm, where the fragments are held apart by the unfractured bone, that non-union occurs.

(5) Interference with Blood Supply. This may occur, due to an injury of the nutrient vessel, by a separation of the periosteum from the fragments, by separation of the soft tissues from the periosteum, by crushing injuries and thrombosis of neighboring vessels, and by tight splinting. It must also be remembered that in certain fractures, such as that of the neck of the femur, the blood supply of one fragment is much impaired.

It is a fact that, when the blood supply to a fracture is deficient, the processes of union are absent or retarded, and we find a non-union or a delayed union. There may not only by a slowing down of callus formation, but there may even be an atrophy of the ends of the fragment.

(6) Infection at the Seat of Fracture. It has been observed that a very mild infection at the seat of fracture may accelerate the process of repair. On the other hand, an uncontrolled infection will cause a destruction of callus, death and sequestration of the ends of the fragments, resulting in non-union.

(7) Removal of Splints before Union is Solid or Too Early Use of Fractured Parts Without Proper Protection. This is a common cause of malunion and non-union. Many fractures which are apparently firmly united, according to examination by x-ray, will separate or angulate if early use without protection is allowed. This is due to the fact that the callus is not firm enough to withstand the forces to which it is exposed. This is especially true of fractures of the neck and shaft of the femur. Often fractures of the neck of the femur separate after weight-bearing is begun. Recently I saw a malunion of a fracture of the shaft of the femur in a child 10 years of age. A practically perfect reduction was obtained on the day the fracture occurred, as shown by x-ray. The child was kept in a plaster of paris cast for six weeks. At this time, physical and x-ray examination showed the fracture had united solidly, with the fragments in good position and alignment. On weight-bearing a deformity gradually developed, resulting in a marked

anterior and outward bowing with one-inch shortening of the femur. This could easily have been prevented by a suitable walking brace.

(8) Early Massage and Physiotherapy. I do not believe in early massage and other types of physiotherapy to fractures, unless given by an expert and then with extreme care. I believe the harm done in the use of physiotherapy far outweighs the good effect obtained. There is too great a chance of allowing fragments to slip, causing motion at the seat of fracture violent enough to destroy the forming callus. Good results have been reported from this type of treatment in children and young people, but I think the same results could have been obtained without physiotherapy. I have seen no advantage of its use in middle-aged and older patients and I believe that, if it were more extensively used by inexperienced technicians, we should hear more of its bad results.

(9) Certain Diseases of Bone and General Debilitating Diseases. Severe hemorrhage, general debilitating diseases, glandular disturbances, and many other diseases, have been given as causes of non-union. I believe they have little, if anything, to do with the union of fractures. In certain conditions, as osteomalacia, and osteogenesis imperfecta, union is delayed or non-union may occur. Syphilis delays union, probably by delaying the formation of callus and the deposit of calcium and phosphorus salts. It has been observed, in many cases with syphilis, where union was delayed, that anti-syphilitic treatment hastened the process of repair to a marked degree. In cases of non-union in syphilitic patients where open operation was resorted to, the periosteum was found to be greatly thickened, the cortex sclerotic and hard. Callus, of course, was small in amount.

(10) Lowered or Deficient Calcium and Phosphorus Content of the Blood. Although little is known in regard to the effect of deficient calcium and phosphorus content of the blood, and experimental work has proved little, it seems reasonable to believe that, with this condition present, the process of repair would be slow. I think that, in cases of multiple fractures where so often we see non-union of one or more fractures, it may be accounted for, partially, by a deficiency of calcium and phosphorus.

(11) Old Age. The age of the patient affects, to some degree, the union of fractures. Fractures in children unite quickly. From twenty-five to fifty years of age, there is very little difference in callus formation and the time required for union. After fifty years of age, the process of repair is slow and the older the patient, the slower the process of union.

(12) Improper Operative Measures. It is a great tendency of most men to reduce by open operation many types of fractures which could be reduced by the closed method. No fracture should be reduced by open operation that is reducible by the closed method. It is too often the case that, during open operation, foreign substances, such as wire, lane plates, and so forth, are used for fixation. These repel callus and are a cause of non-union.

THE CORRECT TREATMENT OF FRESH FRACTURES TO PREVENT MALUNION AND NON-UNION.

When treating fresh fractures we should avoid the above causes of non-union and malunion. Each fraccture should be considered as an individual problem. The correct type of treatment and suitable splints should be determined from a careful study of the patient and x-rays of the fracture. Every fracture should be reduced as soon as possible after it has occurred, and it should be reduced accurately, with the least possible amount of manipulation, so as to avoid secondary injury to the tissues. After reduction, suitable splints or a paster of paris cast should be applied, immobilizing the fracture until union is solid.

There are many objections to plaster of paris casts, but, considering the advantages and disadvantages, I believe it is the best external splint in use today for most fractures. Skeletal and adhesive traction are advisable in selected cases, but are out of the question as a routine type of treatment. These types of traction have been emphasized in the treatment of the tibia and shaft of the femur. This is probably due to the difficulty of manual reduction of these fractures. Most of them can be reduced by traction, angulation and manipulation, and held satisfactorily with a plaster of paris cast. I think the results are better when the latter method of treatment is used.

In fractures of the shaft of the femur, we see many cases of malunion due to over-lapping of fragments, angulation, and rotation. Correct reduction and good post-reduction care will avoid the occurrence of these conditions.

Let me emphasize here the use of x-rays as a check on position of fragments and the progress of union. It is one of the

most valuable assets in the treatment of fractures.

Avoid repeated attempts at reduction. Often the final result of a fairly accurately reduced fracture is better than one more accurately reduced by repeated manipulation.

In regard to the operative treatment of fresh fractures, I can add nothing to the statement of Whitman that "Operative treatment is indicated when a satisfactory reduction can not be obtained and maintained by non-operative methods, provided there is no contraindication, and when the expected result of the open method is sufficiently better than that of the closed to justify the additional risk." Of course, we are all aware of the fact that there are certain fractures, such as fractures into joints, which can not be reduced by closed method—transverse fractures of the patella with separation of the fragments, and others, where open reduction is practically always indicated.

In treating compound fractures, I have for several years adhered to the following plan: If seen early, before infection has had time to develop, a thorough debridement is done. All crushed and devitalized tissue is removed, the fracture is reduced, thorough drainage is established and a suitable splint and wet dressing applied until infection is controlled. If compound fractures are not seen until after considerable infection is present, thorough drainage should be established and the infection controlled before reduction is attempted.

TREATMENT OF MALUNION AND NON-UNION

The desired result from the treatment of a malunited fracture is to overcome deformity and to restore the deformed part to as near normal as possible. If malunions are discovered before union is solid, as all should be, then the partial union should be broken up manually and a correction made by the closed method, if possible. If union is solid, then some operative procedure, such as osteotomy, bone-lengthening operation, or open reduction, must be done.

In selecting the course of treatment for non-union, it is well to keep in mind the fact that many cases of apparent non-union are in reality delayed union, and with the proper non-operative treatment, will progress to a solid union, if given time. This type of case should have proper braces or splints to immobilize the fracture and yet allow use of the injured part. The general condition of the patient should be built up. Exercise, proper diet, cod-liver oil, calcium, and sun baths or violet ray treatments, are indicated.

If a true non-union, with or without pseudo arthrosis, has developed, and the reparative process has stopped, then operative measures are the only procedure. At operation, all scar tissue should be removed from the vicinity of the fracture, to insure a good blood supply. Old callus should be removed and the hard, eburnated ends of the fragments cut away until healthy bone tissue is reached. As little bone should be removed as possible, to prevent undue shortening. The medullary cavity should be re-established. After this procedure, when reduction is accomplished, some type of internal fixation should be used. The best material for this purpose is the autogenous bone graft which may be used as an osteoperiosteal, intra-medullary, inlay or onlay graft. The autogenous graft servis not only as an internal splint, but as a stimulation to callus formation, becoming incorporated in the newly formed callus and an internal part of the union.

CONCLUSIONS

1. The careful study of end results of fractures during the last few years has shown that the end results can and should be made better.

2. The public, as well as the profession, are demanding shorter periods of disability and better functional results.

3. Better results may be obtained by a more careful treatment of fresh fractures.

4. Malunion and non-union can be avoided in nearly 100 per cent of fractures by the correct treatment of fresh fractures.

5. A careful distinction should be made between delayed union and non-union, in order to avoid unnecessary operative procedures and added risk to the patient, as most cases of delayed union will progress to solid union without operative interference, if the proper treatment is instituted.

6. The autogenous bone graft as a means of internal fixation and a stimulus to callus formation, is the best method of treatment of non-union.

The Western Branch of the American Urological Association will hold its Seventh Annual Session in San Francisco on November 6 and 7, 1931 at the St. Francis Hotel.

The program will consist of scientific papers, wet and dry clinics, an opportunity to see the University of Washington versus the University of California football game, a golf tournament and a dinner dance at Tait's-at-the-Beach.

The official hotel will be the St. Francis.

THE MINIMUM EQUIPMENT OF GENERAL HOSPITALS FOR THE TRANSPORTATION AND EMERGENCY TREATMENT OF FRACTURES

H. T. SOUTHWORTH, M.D., F.A.C.S.
Prescott, Ariz.

(Before the Arizona Subcommittee of the Committee on Fractures of the College of Surgeons, Prescott, Ariz., July 11, 1931).

Two years ago, Dr. John Bacon, in his paper on fracture read before the members of the Arizona Medical Association at its meeting in Prescott, called attention to the great numbers of fractures resulting from the swift and reckless transportation on land, sea and air, and commented on the great numbers of fractures first seen by the general practitioner. In the splendid illustration which Dr. C. E. Yount has just given, he shows, by the various parts of the wagon wheel—the hub, spokes, felloe and tire—the relationship from the General Committee on Fractures of the American College of Surgeons (the hub) out through the various sub-committees, represented in his illustration as the spokes and felloes, to the general practitioner, the tire. He makes the simile that, as the tire comes in intimate contact with the earth, so does the general practitioner come in intimate contact with the fracture case.

After making a casual survey, I am persuaded that, in this age of good roads and the almost universal use of the automobile, we have passed into another phase in non-industrial fractures than that referred to in Dr. Bacon's and Dr. Yount's illustration. If it is true locally, we see no reason to believe that it is otherwise in other communities. The phase in which we are living is, that it is not the general practitioner who first sees and prepares the fracture case for transportation but the chance motorist who first arrives at the scene of the accident.

Consider the change in the order. Time was when the doctor was called to see the fracture, regardless of distance, but now the fracture case, whether simple or compound, single or multiple, whether of finger, femur or frontal, unheralded and untreated, is transported to the hospital or doctor's office, by family, friends or passing motorist.

The industrial fracture case continues to receive excellent first aid and proper immobilization before transportation, but that is not true of the great majority of non-industrial fractures. For the past fifteen years the medical profession has been trying to learn to "splint them where they lie" and now, when it has begun to appreciate the necessity of practising the teaching of that slogan, the opportunity has passed out of its hands to those of lay people.

Please note the splendid ambulance service which this community has at its disposal for the transportation of fracture cases. Note the Thomas arm and leg splints which, when applied, so effectually minimize the additional trauma incidental to transportation. Are you surprised to learn that this equipment is seldom used? An extreme case of lay transportation in Arizona is that of the man who sustained a minor injury and was given transportation by a lady motorist. In her haste to get the patient to the hospital, she wrecked her car, killing herself and seriously injuring the patient.

Mr. Chairman, we believe that your committee and the General Committee on Fractures of the American College of Surgeons have before them the stupendous task of educating diversified groups of lay people to the fact that "Splint them where thhey lie" or let them lie, rather than transportation, is the first aid in fracture cases.

It is true that such groups as Boy Scouts, Red Cross, City Firemen and many industrial workers, are given instruction in first aid, but these groups are seldom along the highway where these non-industrial accidents occur. Therefore, we believe that safety first and first aid must be taught to much larger groups of lay people if the number of accidents is to be reduced and if fractures are to be properly immobilized before transportation. We think the suggestion that immobilization splints, with instructions how to use, be prominently displayed in every road-side service station, is a good one, and would be one step in advance of the present condition.

At this time your attention is called to the display of the minimum equipment for the transportation and emergency treatment of fractures. It consists of the following:

1. Thomas upper extremity splints.
2. Thomas lower extremity splints with traction straps, sling and buckle straps.
3. Hodgen splints.
4. Coaptation splints, assorted sizes.
5. Cabor wire splints.
6. Straight pieces of wood (of assorted length, width, and thickness) for splints.
7. Plaster of Paris bandages.
8. Suitable x-ray apparatus, including a portable machine, if practicable.

CASE OF STREPTOCOCCIC PNEUMONIA (With Discussion and Autopsy Report)

HOWELL RANDOLPH, M.D.,
Phoenix, Arizona.

(Presented before Staff of St. Joseph's Hospital, Phoenix, at meeting of April 13, 1931.)

Patient was admitted to the hospital March 22 by ambulance with chief complaint shortness of breath, fever, sweating and pain in the right side of the chest.

Family History: Father and mother living and well. Wife living and well, no children. One brother well.

P. H. On admission patient was too sick to tell much of his past troubles. He stated, however, that he had never had tuberculosis, and that he had always been in good health until about three weeks before admission. A few days after the death of the patient a brother told me that he had had "pneumonia" twice during the previous three years.

P. I. About three weeks before admission the patient had developed a head cold. One week before he had noticed a cough with a small amount of expectoration, and he thought it was a chest cold. He continued to work, however, until the day before, when he was too weak to get out of bed. He developed a soreness in the right side of the chest, and the expectoration became very profuse. The temperature rose and he began to perspire a great deal. These symptoms increased during the day and that night. The following morning he decided to be taken to the hospital.

P. E. Patient was a fairly well nourished man of middle age. He was evidently in great respiratory distress. The face was flushed, with prominent vessels on forehead and temples. Moderate degree of cyanosis. The pharynx was injected, the tonsils small. Examination of the chest showed marked dullness to flatness of the right upper chest down to the 4th rib anteriorly and slight impairment of resonance of the base on the right. The breath sounds over the upper right were amphoric to coarse bronchial over the central portion of the right chest, and of about normal intensity over the base. Numerous moist rales, crepitant and coarse, over the upper right and extending down to the right base. Abdomen moderately distended. Heart rapid but otherwise normal. Temperature ranged from 104 on admission to about 102, averaging about 103. Pulse around 120 to 130 and the respirations between 30 and 40. Blood examination made three times, 13,050 on day of admission, 5,400 two days later, 10,900 on day of death. Polymorphonuclear cells ranged from 68 on the first, 35 on the second and 44 on the third. Four sputum analyses showed many streptococci, no tubercle bacilli. The urine was normal except for few hyaline and granular casts.

Diagnosis made on admission of right lobar pneumonia. The second day in the hospital showed some increase in the amphoric quality at the right apex, with a marked increase in the amount of sputum. It was felt that an abscess was present in the upper lobe. The patient's general condition had become much worse, as was also evidenced by the marked drop in the white cells in the blood, and the shift to mononuclear forms. The following day the respiration became even more labored, there was a gradual increase in the amount of moisture in the lungs, and bronchial rattles developed from which the patient never recovered.

The treatment in this case was largely symptomatic. Heat and camphorated oil to the chest for pain, together with an empirin capsule three grains every four hours. Atropine for excessive sweating. Codeine given for severe cough.

Oxygen was given during the last day when the patient would permit it, as it seemed to make him more uncomfortable. This with digifolin one ampule every four hours did not relieve the cyanosis.

SUMMARY

This was a case of lobar pneumonia with abscess formation in a patient with some chronic lung condition, possibly empyema. At the time of admission his blood count had already passed its peak and was falling, together with the patient's resistance to the virulent streptococcus pneumonia. It is probable that nothing could have altered the result in this case. Specific serum, we have none. Non specific protein therapy, as with the vaccines, might have affected the blood count and thus the resistance.

A proper oxygen chamber, in which humidity and temperature can be regulated, and thus oxygen administered without offsetting much of the good that is done by the oxygen, by the discomfort caused the patient in taking it, would be of value. It is doubtful whether this would have materially benefited this patient, however.

Diagnosis; lobar pneumonia of the right upper and middle lobes, with abscess formation in the upper lobe. Streptococcus etiology.

Discussion by Dr. Norman J. Ross

We all admit two types of pneumonia, acute lobar or croupous and bronchopneumonia. Some authors (MacCallum and Stephens) list a third type, streptococcic pneumonia. By definitions of these pneumonias I will attempt to differentiate them.

Lobar pneumonia is a specific, self limited, acute, infectious disease, caused by the encapsulated diplococcus of Frankel and Weichselbaum, characterized clinically by onset with chill, high continuous temperature, toxemia and a tendency to terminate by crisis; pathologically, by three stages of engorgement, red hepatization and grey hepatization. In these stages a lobe or lobule is uniformly involved. In the stage of grey hepatization we find characteristically, several appearances on microscopic examination; decolorization and complete disappearance of the red blood corpuscles, disintegration of the fibrin, extensive leukocytic infiltration not only of the alveoli but also of the interstitial connective tissue, the white cells show all grades of fatty degeneration, with no connective tissue ingrowth or proliferation. Complications may be empyema, pleurisy, otitis media, endocarditis, meningitis, thrombophlebitis, lung abscess and gangrene. There is some question as to whether lung abscess is a complication of pneumonia, many authors considering such a lesion to be always primary and the pneumonias found at autopsy in such cases to be secondary, of the bronchial type or streptococcic.

Bronchopneumonia (lobular, catarrhal or capillary) is a disease of the infant, the debilitated and the senile, caused by a number of organisms. It may be primary in children and the aged, following exposure, but is usually secondary. It is characterized clinically by variable fever, generally remittent or intermittent, dyspnea and cyanosis; pathologically, by inflammation of terminal bronchioles and contiguous vesicular tissue, and usuallly affects groups of lobules rather than an entire lung. A grey exudative process in the bronchioles with a red hyperemic area surrounding it is characteristic.

Complications of the primary disease, as in infants, are the same as lobar pneumonia; of the secondary bronchopneumonia, more or less atelectasis is always present, pneumothorax sometimes, empyema. Complications are less frequent than in lobar pneumonia, though the mortality is greater.

Streptococcic pneumonia may be epidemic and endemic, is caused by the streptococcus, is most frequently secondary (to rhinitis, tonsilitis, pharyngitis or flu), is characterized by a remittent temperautre, marked cyanosis and dyspnea, frequently out of proportion to the findings, which are those of bronchopneumonia. There is a severe toxemia, most frequently due to septicemia, and an extremely high mortality rate. The diagnosis is based on the large numbers of streptococci in the sputum, on positive blood culture, or on x-ray findings. Pathologically, there is extensive infiltration of alveolar walls and tendency of the exudate to undergo organization at an early date. The lesions are distinctly peribronchial, having the appearances of miliary tuberculosis on cut section, and it may be impossible to differentiate them from bronchial or lobar pneumonia under the microscope.

In the particular case under discussion, I offer for diagnosis the following:

Arteriosclerosis; primary lung abscess as the debilitating factor; streptococcic septicemia; streptococcic pneumonia, with pneumothorax, lung collapse and exudative pleurisy; septic spleen; death from vasomotor cardiac failure with the usual hypostatic congestion.

The treatment then was correct. Rest and nursing. Counterirritation is indicated, such as heat, camphor and oil, pneumonia jacket or mustard plaster. He should receive 1500 calories of carbohydrate daily and 3000 c. c. of fluids. For oxygen administration we have the latest equipment here, and its use in 35 to 40 per cent concentration for dyspnea and cyanosis is invaluable. The use of digitalis is a matter of opinion and judgment; I am for its intelligent use. I would suggest adrenalin and pituitrin, along with caffeine for the vasomotor cardiac treatment. I would most certainly give sodium chloride t. i. d. unless there is considreable kidney damage. Sodium chloride is excreted in large amounts in the sputum and perspiration, and the fact that it is usually absent from the urine, demand its use. It is a necessary food for the patient, aiding metabolism and overcoming toxemia. A five per cent solution in one ounce doses every two hours or in bulk is recommended. For a narcotic I suggest alcohol; it is both narcotic and food, being the only food absorbed through the gastric mucous membrane; can be given in one ounce doses of whiskey or brandy every three hours; if the patient is an alcoholic, more is recommended. Morphine or codeine are seldom needed; if they are, we prefer codeine. With the diagnosis we have made, salicylatis would be indicated. Many authors state that the salicylates locally in the throat are antistreptococcic, either bactericidal or antitoxic. If sodium salicylate is used, it is better given intravenously, because of gastric irritation; 30 to 60 grains in 20 c. c. of water, two to four times daliy. Rectal medication may be used supplementary, or alone in children (100 grams in six ounces of water daily, single dose). I would say that salicylates were indicated in massive doses, either as aspirin up to 500 grains or until patient is salycilized with ringing in ears and some tingling, or sodium salicylate. This latter plus antistreptococcic serum offers the only specific treatment, and the only treatment other than supportive given in the New York Hospital. Other measures that should be tried with septicemia are transfusions of intravenous saline if too little fluid, with adrenalin, pituitrin and caffeine, sodium benzoate, carbon dioxide and oxygen. As for quinine, or camphor and creosote, if their effect is pneumococcidal as some men contend, they are valueless in streptococcic pneumonia. There is, of course, no call for surgical intervention; the case is entirely medical until the pneumonia is relieved.

Report of Autopsy by Dr. H. P. Mills.

The body is that of a well nourished and well developed white male adult.

Examination confined to the thorax and abdomen. Usual incision was made, the breast plate removed and the left lung removed. It was quite heavy and crepitant in the upper lobe, not crepitant in the lower lobe. On cut section there was a vast amount of fluid escaped from both lobes, the lower lobe showing patchy areas of hyperemia. The right lung was firmly adherent by numerous bands to the parietal pleura; these were broken and the lung removed. On removing the lung there was one abscess cavity in the upper lobe which was broken through and a thick, bloody fluid expressed. The lower lobe presented an area along its outer margin of compression and collapse. This area was covered over by fairly firm, fibrous material. Cut section on the right lung shows a consolidation of the entire lung. There is abscess formation involving the middle and a small portion of the upper lobe. There is an old unresolved pneumonia process of the lower lobe, gray in color.

The heart was small. No excess amount of pericardial fluid and no evidence of valvular or myocardial disease. The left coronary artery showed patchy areas of atheroma, otherwise no pathology.

Abdomen: Liver was pale and quite firm. Gall bladder was collapsed, no stones or no evidence of any lymph nodes around the cystic or common ducts. The appendix was retrocecal and bound down by one or two firm, fibrous bands. The right kidney was slightly enlarged, capsules strip easily. On cut section the cortex was normal with some areas of hyperemia present. No excess amount of fat present. The left kidney apparently the same. Spleen was enlarged to about three times normal size and was very friable on cut section.

Anatomical Diagnosis:

Right lower pneumothorax with adhesive pleuritis.

Right lobar pneumonia involving all the lobes with abscess formation.

Hypostatic congestion, left lobe with patchy areas of hyperemia.

Some arteriosclerosis of coronary arteries.

Septic spleen.

General Discussion.

DR. H. P. MILLS:—It is difficult to harmonize the history of a few days illness with the postmortem findings; e. g., the empyema and cavity formation. The streptococcic pneumonia and breaking down of lung tissue could have occurred in a few days, but if the empyema pocket was of long standing, some of the other pathology probably was also. I think the man was sick a longer time than the history indicates.

DR. HOWELL RANDOLPH:—A brother of the patient said that he had had pneumonia twice in the past four years. Was it pneumonia or something else? Was it spontaneous pneumothorax with empyema? The salicylates were used primarily for pain in this case. Morphine is indicated where there is much pain and codeine seemed to give him considerable relief.

DR. W. W. WILKINSON:—We have heard pneumonia discussed at this hospital and at the Good Samaritan Hospital, and at neither institution have we heard diathermy mentioned in the treatment. It is one of the things which the physicians should bear in mind in treating pneumonia.

DR. R. B. RANEY:—I recall this man as coming up before the Veterans' Bureau several times, so that he must have had a chronic illness. When he

came into the hospital he certainly was very sick, with physical signs of extensive lung disease. This patient had definite cavity in the apex which had existed for some time, with dissemination and formation of an upper right lobe pneumonia. There was a solitary abscess from which the infection probably disseminated.

DEATHS IN GOOD SAMARITAN HOSPITAL, (Phoenix.)

(March, April and May, 1931).

J. D. Hamer, M.D.,
Chairman of Records Committee.

There were twenty-one deaths in March.

Case 10755 was a premature child who expired 18 hours after birth, autopsy showing numerous areas of atelactasis.

Case 10678 was a premature child who expired on the seventh day after birth from broncho-pneumonia. This case was autopsied.

Cases 10907 and 10980 were both premature babies of about seven months.

Case 10838 was a premature, one of twins, who died eight days post-delivery.

Case 10788, an infant of one month, expired on the pediatric service of toxemia from diarrhea, bilateral ototis media, and possible septicemia. This child was found living with its parents under the South Central Ave. bridge in a very critical condition at the onset.

Case 10835, a male of 28 who expired from advanced pulmonary tuberculosis, complicated by severe hemorrhage.

Case 10822, a female of 50, whose clinical diagnosis was bronchopneumonia, dry pleurisy and acute dilatation of stomach and duodenum. The essential findings at autopsy were bronchopneumonia of right lung, massive hyperemia of left lung, old tuberculosis of both apices, slight hypertrophy of left side of heart atheroma of ascending aorta and sclerosis of coronaries, and chronic glomerular nephritis. The duodenum was dilated.

Case 10992, a male of 71 who expired of myocarditis, with associated chronic nephritis.

Case 10904, a male of 55, diagnosis of essential hypertension, cardiac hypertrophy, compensated, vascular nephropathy with insufficiency, and diabetes mellitus. There was some question about this patient having a low-grade meningitis due to certain symptoms, but a study made before death quite ruled out this possibility, as well as that of neurosyphilis.

Case 10789, a male of 43, died of cerebral hemorrhage, attending a case of tertiary lues. An autopsy showed a large antemortem clot filling the entire left lateral ventricle.

There were four deaths on the surgical service.

Case 10949 and Case 10736 were both deaths from acute appendicitis, ruptured, with peritonitis. The first was complicated by an intestinal obstruction, six days after the surgery was done, and necessitating reopening the abdomen.

The second case, 10736, was a child of 3 years. The operative notes of the surgeon state that the appendix was enlarged and reddened, but point of rupture was not found. Much pus was in the abdomen, and the mesentery was hemorrhagic. Pathological report of the appendix was "walls fibrous, section shows slight lymphoid hyperplasia, but no recent inflammatory changes." This case again illustrates the advisability of trying to make the clinical, operative and pathological findings agree, as stated on our charts Here is a case where the surgeon definitely states that he finds no ruptured appendix, and the pathologist states there is no recent inflammatory change; yet the final summary record states the diagnosis of "ruptured appendix."

Case 10745, a male of 12, who expired following surgery for an acute appendicitis, with abscess formation and peritonitis. This case developed an obstruction and was re-operated the third day after the initial surgery.

Case 10811, a male of 42, moribund when operated, with a diagnosis of intestinal obstruction, which was thought to be either from a ruptured appendix, malignancy or ruptured liver abscess with peritonitis. Nothing was done at operation but a colostomy, due to the patient's condition and extensive purulant peritonitis. Expiring four days later the body was opened at autopsy, and a complete stenosis of the bowel at the level of the mid-portion of the descending colon was found, together with generalized peritonitis.

Case 10777, a male of 47, who expired from a basal skull fracture.

Case 10781, was an infant of 3, badly mangled in an accident, the essential injuries being fractured skull, intra-cranial hemorrhage, fractured pelvis, and ruptured bladder.

Case 10842, femals of 36, who died from the effects of a gunshot wound, with injury to the cervical cord. Surgery was contemplated, but not attempted.

Case 10939 was another child of 5 years, who expired as the result of an accident, receiving fracture of femur and tibia of right leg, fractured skull and fractured right clavicle.

Case 10870 was a man who received a fractured skull when thrown from a moving freight train. A trephine was done on this case for the alleviation of pressure. An autopsy was done.

Summarizing, we have 21 deaths as follows: Six premature babies, one infant on the pediatric service, five on the medical service, four on the surgical service and five due to acts of violence and accidents. There were six autopsies.

During the month of April there were thirteen deaths, as follows:

Case 11223 was a woman, who expired from extensive body burns, following an explosion of an oil stove.

Case 11157, a male of 61, died of concussion of the brain, and fracture of the skull, complicated by a pneumococcic meningitis, as determined by examination of the spinal fluid. One curious phenomenon was the presence of positive agglutination test with all three types of the pneumococcus.

Case 11041, a female of 55, who lived for four days after being stricken by cerebral hemorrhage.

Case 11250, a woman who committed suicide by ingesting a large amount of bichloride of mercury.

Case 11097, a male of 70, entered the hospital April 7, and expired April 10. His condition was extreme upon admission, and the chief cause of death was a cardio-vascular-renal combination.

Case 11313, an infant of 3 months, expired of acute intestinal indigestion and pyelitis.

Case 11067 was a case of prematurity and icterus neonatorum.

Case 11081, was a premature with bronchopneumonia.

Case 11188 was an infant of 3 months with anhydremia, acute acidosis, gastroenteritis, and broncho-pneumonia.

Case 11096, an infant of two months, with pyloric stenosis was operated upon, and expired the fol-

lowing day. The cause of death is reported as broncho-pneumonia.

Case 11045 was an old man of 88, who expired from shock while under an anesthetic, and during the process of a Cotton reduction and application of a double spica cast to a broken left femur.

Case 11205, a female of 19, who developed signs and symptoms of pelvic infection three days postpartum, with peritonitis, and was operated upon on April 24, one week after her admission, because of the onset of an intestinal obstruction. A cecostomy was done. Patient expired six days later.

Case 11276, a female of 39, expired as the result of toxemia of pregnancy, and an old nephritis with suppression of urine. A valiant but vain effort was made to save this patient's life by supportive treatment, intravenous medication and fluids, and as a final resort, the introduction of the Vorheis bag to induce labor, but she expired because she did not respond to any treatment.

Summarizing, we have thirteen deaths, and no autopsies. Three deaths from acts of violence and accidents, a burn case, a fractured skull, and a mercury poison case. Two cases on medical service, a cerebral hemorrhage, and one from a cardio-renal syndrome. Two cases of pediatrics, one an acute intestinal indigestion and pyelitis, and one from anhydremia and broncho-pneumonia. Two premature babies, and one eclampsia on the obstetric service; three cases on the surgical service, one case of peritonitis following a pelvic infection postpartum, one under anesthesia from shock attending old age, and one case of pyloric stenosis following operation.

During the month of May there were eighteen deaths, as follows:

Twelve of the eighteen deaths in the hospital during May were on the medical service, and are classified as follows:

Male of 79, decompensation of heart, and aortic regurgitation.

Male of 82, interstitial nephritis and aortic regurgitation.

Male of 61, acute catarrhal jaundice.

Male of 38, bronchial asthma, and non-specific encephalitis probably an allergic intoxication.

Male of 18, hemophilia and epistaxis.

Male of 55, multiple sclerosis and arteriosclerosis of heart and kidneys. (Autopsy.)

Male of 49, primary carcinoma of stomach, with metastasis to liver and right lung; secondary anemia.

Male of 69, chronic nephritis and myocarditis.

Male of 58 abscess of right lung.

Female of two years, gastro-enteritis.

Female, age not stated, pulmonary tuberculosis with hemorrhage and myocarditis.

Female of 3, probable streptococcus blood infection and status lymphaticus; an autopsy on the case indicated to the pathologist that the child probably expired of an acute leukemia, lymphatic in type, and status lymphaticus.

One death from accident, was a female of 51, who expired from concussion and contusion of the cerebrum.

Five deaths occurred on the surgical service. Children with ruptured appendices continue to lead the list, as they have in the past few months. There were three last month, one female, age 7, and two boys, both age 13.

Also, a male of 53, after cholecystectomy, with a diagnosis of chronic cholecystitis, with periduodenal adhesions, chronic peptic ulcer, expired of cardiac failure.

The other death on the surgical service is to be discussed, that of a thyroid case.

I wanted again to call attention of the staff to a few matters which are vital in the routine classification of causes and minor causes of death. In addition, there are numerous other bits of information, which, if incorporated would greatly assist in correlating our material, both for statistics and for study. This is particularly true of postoperative morbidity and mortality. It was not so many years ago that the survival of a patient from some major type of operation was considered a triumph, and when complications arose that were not wholly the result of an operation, such as shock or hemorrhage the incident was regarded as unavoidable, and for which there could be no blame attached to the surgeon. But that attitude has changed, and it should be our aim to keep abreast of the times in the Good Samaritan Hospital. This must be so in order to maintain the required standardization and credit among the hospitals. There is nothing to indicate to us the trouble with a patient, what was done for him, and what became of him, except from the chart.

We must realize that the greatest hope of reducing the mortality of surgery rests on the constant and critical discussion of the causes of surgical treatment, on the causes of death, accurately recorded, and on postoperative complications. The factor of postoperative complications is being studied more and more over the world in medical centers, and from this study no doubt will continue to pour into literature many contributions on the causes and effects, and information dealing with the treatment. I have noticed, in our records, that this one phase of our case record is neglected badly. Our charts are improving, for statistical purposes especially in the incidence of postoperative complications, and in the proper correlation of the clinical diagnosis with postmortem findings in fatal cases. I would suggest that we summarize our clinical diagnosis of all pathological conditions according to their importance, then give a summary of the autopsy findings, if one is done, and I would suggest that we carefully study postoperative complications, and accurately record them.

Take, for instance the postoperative pulmonary complications. We find here on our charts on some occasions not even major estimations of postoperative morbidity, and causes of mortality. In an analysis of the causes for this condition, one could blame some of them on carelessness, forgetfulness or lack of concerted actions and agreement of nomenclature on the part of different members of the staff, or to failure to record the minor complications in non-fatal cases, or in the diversity of interpretation given to common pathologic states by the different members of the staff. Also, by a lack of postmortem information on most of our cases. Records of the lungs for instance refer to the complications as pneumonia, bronchitis, or pleurisy, occasionally with such diagnostic variations as broncho-pneumonia or lobar pneumonia. We do not systematize our efforts at differentiation between the purely infectious, inflammatory and the embolic or infarct pneumonia, and perhaps we could even mention atelectasis, which, of course has only recently come into prominence in clinical discussions. And so it is with the heart and vascular system, the abdomen, or blood stream. We can at least try to diagnose with reasonable certainty the exact cause of postoperative morbidity or mortality.

THE NEW MEXICO MEDICAL SOCIETY

FORTY-NINTH ANNUAL MEETING, AT ALBUQUERQUE, NEW MEXICO, MAY 20-22, 1931.

May 20, 1931.

The Forty-Ninth Annual Meeting of the New Mexico Medical Society, convened at Albuquerque, May 20, 1931, despite the general business depression, set a new record for attendance, as well as a new standard of quality and excellence in the scientific sessions.

Registration headquarters were established in the Hotel Alvarado, where all business and scientific sessions were held.

Meeting of the Council.

Called to order by the President, Dr. R. O. Brown (Santa Fe), at 9 a. m., there were present: Ex-officio members, Drs. R. O. Brown and L. B. Cohenour; members, Dr. Carl Mulky (Albuquerque), Dr. W. T. Joyner (Roswell), Dr. C. W. Gerber (Las Cruces), Dr. C. B. Elliott (Raton).

Minutes of the last meeting were read and approved.

Financial report of the Treasurer, Dr. L. B. Cohenour (Albuquerque), was read by him, as follows:

"Gentlemen: I hereby submit a report of the financial affairs of the New Mexico Medical Society ending this date:

Balance on hand at annual report June 4, 1930	$1,551.57
Delinquent dues collected, 2 members 1930	10.00
Annual dues, 10 new members	50.00
Annual dues, 8 members 1930	40.00
Annual dues collected for 1931 from 213 members	1,065.00
Cash from Dr. C. F. Beeson by mistake	10.00
Total cash received to May 20, 1931	$2,726.57

Disbursements

Reporter for 1930 meeting (Balance half fee)	$ 100.00
Secretary's salary for 1930	300.00
Southwestern Medicine for 234 members for 1930	468.00
Reporter for 1931 meeting (advance half fee)	100.00
Treasurer's bond for 1930-1931	5.00
Southwest Printing Co., 300 programs for State Meeting at Raton, N. M.	35.00
Commercial Service Co., L. C. Typewriter $105, less credit on old typewriter of $20	85.00
Gordon-Horton Co., 250 2c stamped envelopes	7.46
Gordon-Horton Co., 250 letter heads	4.25
Albuquerque Stationery Co., Financial Journal	2.75
Western Union Telegraph Co. Legislation on Naturopath Bill	4.62
Gordon-Horton Co., 250 2c stamped envelopes	7.50
May 1, 1931, Refund to Dr. C. F. Beeson (on $10 per capita too much)	10.00
Total expenditures for 1930-1931	$1,129.58
Total balance on hand May 20, 1931	$1,596.99

Outstanding Indebtedness

Southwestern Medicine, dues 213 members	$ 426.00
Secretary's salary for 1930-31	300.00
Reporter for 1931 meeting (balance half fee)	100.00
Medical Directory for 1931	15.00
Treasurer's bond for 1931-1932	5.00
Approximate total	846.00

Expected Balance after all bills are paid....$ 749.99

Respectfully submitted,
(Signed) L. B. COHENOUR,
Secretary and Treasurer."

Motion that the Treasurer's Report be accepted and approved as read was made by Dr. Gerber (Las Cruces), seconded by Dr. Mulky (Albuquerque), and carried.

The President, Dr. Brown, spoke in regard to work done by the Legislative Committee in connection with attempt to have a Basic Science Bill passed at the Legislature. A bill was drawn up after the model sponsored by the American Medical Association and introduced in both Houses. The Committee in the House, to which it was referred, finally voted, by a majority of one, to report it unfavorably but this was held up with the thought that perhaps later a more favorable vote could be secured; however, it was plainly seen later that there would be no chance at this time for favorable action. The Naturopathy Bill was referred to the House Committee, was reported favorably, and the House went into it as a whole. The Bill finally passed the House and got as far as a public hearing in the Senate. Colonel Gilbert, a lawyer in Santa Fe, conducted hearings for the State Medical Society and did such a good job of it that the Bill was finally laughed out of court. While it is regretted that the passage of a Basic Science Act was not accomplished, yet in the matter of education, it is felt that much was accomplished. Expenses incurred were $9.80 for telegrams and $50 fee of lawyer in drawing up and working on the Bill.

Dr. Brown further stated that Drs. Joyner and Ingalls from Roswell came up to Santa Fe and were of much assistance and that he thought their expenses should be taken care of by the Society. Dr. Joyner stated that Dr. Ingalls and he went to Santa Fe on their own responsibility to a great extent, that they were very much interested and felt that every man who was interested should go and do what he possibly could in getting a Basic Science Bill through and the Naturopathy Bill defeated. The Naturopathy Bill was virtually a similar proposition to that of the chiropractors and the work done by Dr. Brown was what defeated it. Just such measures as this, he said, are going to arise from time to time, which we must fight, and while the Society appropriated $500 at the meeting last year for the purpose of meeting expenses in connection with this work, he had no thought, so far as their personal expenses were concerned, that they would be paid out of this fund. Dr. Mulky expressed the opinion that the expenses of Drs. Joyner and Ingalls should be paid by the Society. Dr. Brown stated that they were of great assistancee to him and he thought likewise they should be reimbursed the amount of their expenses.

Motion was made by Dr. Mulky that Drs. Joyner and Ingalls be reimbursed to the extent of $60 ($30 each), on account of expenses incurred in connection with trip to Santa Fe and work on the Basic Science Bill, seconded by Dr. Gerber, and carried.

Motion by Dr. Cohenour that Dr. Brown be reimbursed for expenses of telegrams, $9.80, and legal services, $50.00, was seconded by Dr. Gerber and carried.

The Secretary, Dr. Cohenour, read applications for membership in the Society from the following, stating that dues had already been paid, and since the applications had been approved by the component county societies, they had virtually been accepted:

New members: Dr. W. A. Onstein, Taos, N. M.; Dr. G. L. Langworthy, Hobbs, N. M.; Dr. M. D. Moran, Farmington, N. M.; Dr. Byron B. Thorpe, Tucumcari, N. M.; Dr. A. J. Burch, Reserve, N. M.

Reinstatement: Dr. C. Plumlee, Roy, N. M.; Dr. C. J. Amble, Mountainair, N. M.

Membership was granted to each upon favorable vote.

Dr. Joyner, referring to the work of the Councillors, stated that originally one councillor was appointed for each Judicial District, at which time there were six Judicial Districts, and therefore there are six councillors. Now there are more than six Judicial Districts and it would seem there should be a reapportionment of councillors to cover the new districts and each councillor should be informed as to just what territory he should cover.

The President appointed as a committee, Drs. Elliott, Mulky and Joyner, to lay out the districts each councillor is supposed to cover, to report at next meeting.

The Secretary, Dr. Cohenour, read a letter from Dr. H. W. Gibbs, Las Vegas, N. M., dated March 24, 1931, in regard to the San Miguel County Society, stating in effect that no meeting has been held for at least four years and there is practically no organization.

Dr. Joyner expressed the opinion that this was a matter for the Councillor for that District.

Motion for adjournment was carried with the understanding that another meeting would be held Thursday morning at 8:30 a. m., May 21, 1931.

House of Delegates

Called to order by the President, Dr. R. O. Brown (Santa Fe) at 9:30 a. m. Present: Dr. R. O. Brown (Santa Fe), Dr. L. B. Cohenour (Albuqueqrque), Dr. W. H. Woolston (Albuquerque), Dr. W. T. Joyner (Roswell), Dr. C. F. Milligan (Clayton), Dr. F. D. Vickers (Deming), Dr. H. A. Ingalls (Roswell), Dr. E. E. Royer (Albuquerque), Dr. Troy C. Sexton (Las Cruces), Dr. R. L. Bradley (Roswell) and Dr. E. C. Mathews (Albuquerque).

Minutes of the meeting of the Council were read and approved.

The President, Dr. Brown, spoke in regard to work done by the Legislative Committee in connection with attempt to have a Basic Science Bill passed, reiterating his remarks made at the Council meeting.

The Secretary, Dr. L. B. Cohenour, read his annual report as follows:

"Gentlemen: I hereby render a report of the affairs of the office of Secretary-Treasurer for the term ending with this session:

"At the meeting held in Raton, N. M., June 4, 1930, there were 10 members suspended for nonpayment of dues, and immediately following ten members reinstated and ten new members were admitted to the Society following this meeting, by affiliation with County Societies.

"Members in the Society at this time are as follows:

	1930	1931
Bernalillo County	45	52
Chaves County	19	20
Colfax County	15	18
Curry County	12	10
Dona Ana County	11	11
Eddy County	9	5
Grant County	16	18
San Miguel County	6	5
Luna County	6	6
McKinley County	11	11
Santa Fe County	17	16
Union County	9	9
Members at Large	37	32
Total in good standing this date		213

"Seven applications for membership were received to be presented at this meeting and membership cards issued to them in advance. No deaths of members of this Society occurred during the past year.

Respectfully submitted,
(Signed) L. B. COHENOUR,
Secretary and Treasurer."

Motion by Dr. Troy Sexton (Las Cruces) that the Secretary's report be approved, as read, was seconded by Dr. R. L. Bradley (Roswell), and carried.

The Secretary read the applications of five for membership and two for reinstatement, which had already been acted upon favorably by the Council.

Dr. R. O. Brown (Santa Fe), announced that as a delegate from the Santa Fe County Medical Society, he had been instructed to invite the Society to hold its next annual meeting at Santa Fe.

The Secretary read a telegram dated Santa Fe, N. M., May 19:

"Dr. M. K. Wylder, Presiding Officer, New Mexico Medical Society Convention, Albuquerque, N. M.: Santa Fe Chamber of Commerce sends you and through you to the delegates in Convention assembled cordial greetings and best wishes, and equally cordial invitation to hold next Convention here.

CARL A. BISHOP, President.

Action was deferred until the business meeting of the House of Delegates, for election of officers.

Dr. Cohenour (Secretary) read a letter from the Colorado State Medical Society, dated Denver, Colo., January 21, 1931, as follows:

"Dear Dr. Cohenour: Our Committee on Scientific Work, in charge of the program for our next annual session, to be held in Colorado Springs, September 15, 16 and 17, directed me to invite you and the other officers of your Society to attend the meeting as Fraternal Delegates. The thought occurred to the Committee that perhaps some representative of your Society would like to appear on our program with a timely paper and, if such is the case, we should like very much to have your suggestions. With this in view it should be borne in mind that our Committee is endeavoring to complete arrangements for the program by March 1st. In any case I trust we shall have the pleasure of greeting several members of your Society as our guests in Colorado Springs next September.

"Sincerely,

COMMITTEE ON SCIENTIFIC WORK,
By Harvey T. Sethman,
Executive Sec'y."

Afetr informal discussion it was decided to defer this matter until the meeting set for election of officers.

Dr. Cohenour (Secretary) read a letter from Dr. Kemper, of the Colorado State Medical Society, which proposed that the official journal of that organization, now known as "Colorado Medicine," be changed to "Rocky Mountain Medicine," and become the official journal of New Mexico as well as Colorado and Wyoming. Dr. Brown (President) stated that he had heard something in regard to the proposition from the Director of the Bureau of Public Health, who is one of the Editors of Colorado Medicine, and that he would like to know the opinion of the members on the subject. Dr. Joyner (Roswell) stated that he did not see how the matter could be taken up without the consent of the Arizona State and El Paso County Medical Societies; that the New Mexico State Society had one-third interest in Southwestern Medicine, which is the official journal of the three organizations, as well as the Southwestern Medical and Surgical Association. Dr. Mulky (Albuquerque) suggested that the proposition should be taken up with the other Societies as well as the New Mexico State Society. The President suggested that the Secretary correspond with Dr. Kemper and suggest that the question be taken up with the Arizona State Society,

the El Paso County Medical Society and the Southwestern Medical and Surgical Association.

At this point Mr. Harvey T. Sethman, Executive Secretary of the Colorado State Medical Society, entered and was asked to explain the movement. Mr. Sethman stated that it had been the dream of a number of men in Colorado for a good many years that there should be an amalgamation of interests in medical publication of the so-called Rocky Mountain States; that the matter was taken up by the House of Delegates at the meeting last year and authority given to the Committee on Publication to invite the neighboring states not now associated with Colorado Medicine to unite with them and expand all into a Rocky Mountain Journal. The Journal at the present time is about the fourth largest in the country and is the official sponsor of the Colorado State Medical Society, the Wyoming State Medical Society and the Colorado Hospital Association. Wyoming has no hospital association. The Publicity Committee has extended invitations to Montana and to New Mexico. While not wishing to be in the position of using any high-pressure salesmanship to bring this about, it is desired that the matter be considered, as it would be of great mutual advantage to the Rocky Mountain States. He presented letter dated Colorado State Medical Society, May 18, 1931, as follows:

"To Officers and Delegates of the New Mexico Medical Society Convention in Albuquerque, N. M., Greeting: Under authority of the House of Delegates and the Committee on Publication of the Colorado State Medical Society, it becomes my privilege to extend to your Society an invitation to designate Colorado Medicine as your official journal.

"May I call to your attention the following resolution unanimously adopted by the House of Delegates on September 9, 1930:

"BE IT RESOLVED by the House of Delegates of the Colorado State Medical Society that the Committee on Publication and the Executive Secretary are hereby jointly empowered to invite on behalf of this Society the recognized medical societies of other States in the Rocky Mountain region to designate the official journal of this Society as the official journal of their Societies.

"BE IT FURTHER RESOLVED that the Committee on Publication and the Executive Secretary are further jointly empowered to execute such contracts with such other State Medical Societies as, in the judgment of the Committee on Publication and the Executive Secretary, are proper and necessary to effect the establsihment of a working plan for the inclusion of such additional State Medical Societies in the sponsorship of the official journal of this Society.

"Leaders of medical thought in our State and in Wyoming have for many years planned that the diagnostic and therapeutic problems of all states in the Rocky Mountain Region are so similar that a common journal for this region would be of great value. They believe that such a journalistic enterprise will constitute a progressive step and will form the foundation for a more logical representation of medical thought in the Rocky Mountain tier of states than now exists.

"Colorado Medicine now is the official organ of the Colorado State Medical Society, the Wyoming State Medical Society and the Colorado Hospital Association. Our own House of Delegates has, through an amendment of our By-laws, authorized our Committee on Publication and our Board of Trustees to change the name of Colorado Medicine to some name that would more properly describe the journal as representative of the principal Rocky Mountain States. The name will be changed as soon as one additional state besides Wyoming joins with us in this enterprise. Should your Society consider this invitation favorably, we should naturally desire to confer with you as to a proper name for the expanded publication.

"It is quite natural that, before your Society would be willing to ratify definitely such a merger of interests, you would wish to know in full detail what our Journal could offer you. In this regard may I say that it will be a pleasure for such officers of our Society as are empowered to complete any necessary arrangements to meet with the appropriate officers of your Society at your convenience.

"It is the hope of our officers and our House of Delegates that after careful deliberation your Society will see with us the mutual advantages of the arrangement suggested and that in the not too far distant future negotiations may be completed for uniting in the publication of a Rocky Mountain Medical Journal.

"By order of the Publication Committee under authority of the House of Delegates.

(Signed) HARVEY T. SETHMAN,
Executive Secretary."

Dr. Brown asked if any overtures had been made to the Arizona State Medical Society or to the El Paso County Medical Society, to which Mr. Sethman replied "No! not as yet, the Publication Committee has full authority of the House of Delegates to work out all details with the Trustees, but so far invitations have been issued only to the New Mexico and the Montana State Societies."

Adjournment 10 a. m.

General Session

The meeting was formally opened at 10 a. m., the call to order being made by the President, Dr. R. O. Brown (Santa Fe).

Invocation was delivered by Dr. George Weber.

Dr. James F. Zimmerman, President of the University of New Mexico, was introduced, and expressed his pleasure at having the honor of giving a word of welcome to the medical profession of New Mexico—a welcome that carried an invitation to every man working in the profession to forward a program of health preservation and all things that go to make up a cleaner life and better citizenship. Dr. Zimmerman deplored the fact that there is no medical college at the University and the men taking up pre-medical work having to go elsewhere to complete their courses, are thus confronted by a very difficult problem. He suggested that an Institute of Health might be created and all those engaged in medical research work or health problems, whether rural sanitation, infant mortality, child welfare, or other forms, cooperate and further such a movement. This would be of great service to physicians, surgeons, and other scientists, and would be of great value in the study of tuberculosis and other diseases. He also advocated health demonstrations and talks in communities, at county fairs and other public gatherings, as an aid in educating the public towards bettering health conditions.

Dr. Crum Epler (Pueblo, Colo.), in response to the address of welcome by Dr. Zimmerman, called attention to the fact that he is virtually a member of the Society since he always attends the annual meetings, deriving much pleasure and benefit therefrom, since the New Mexico doctors are not only good medical men, but genuine, real fellows, and for this reason visitors, particularly visitors from the sister state from which he comes, Colorado, are always glad to meet with them.

Dr. Brown (President) in introducing Dr. M. K. Wylder (Albuquerque), incoming President, remarked he was afraid he might not now enjoy the meeting as much as some of the others, since he would no longer have a chance to talk without danger of an argument.

Dr. Wylder, in his opening address, besides touching on medical legislation in which the profession

was misunderstood, urged the profession to think in terms of the patient and not in terms of pathology and disease, in administering service.

In referring to cults, Dr. Wylder said: "I believe that we owe a great deal to the cults and should, perhaps, let them alone, for they do two things for us by their activities. They stimulate us to better work, and once in a while, they do discover a grain of wheat in many bushels of chaff and regular medicine does now and always has, gladly, and I might say anxiously, appropriated any beneficial measure that has been brought out from no matter what source. Homeopathy taught us to modify the enormous doses that were in vogue a hundred years ago; the Eclectics taught us to give more attention to the relief of symptoms; the Osteopaths, while working on a false premise, developed some methods that have been adopted by the Physiotherapists, and the Christian Scientists have emphasized the cultivation of optimism, hopefulness and cheerfulness."

Dr. Hugh Jones (Los Angeles, Cal.), in a lecture on "Plastic Reconstructive Surgery of the Extremities," presented slides and moving pictures of various interesting cases, including a congenital web finger; a contracture of knuckle joints following injury by fallen timbers; a large bump on leg from a compound fracture; scarring on front of shin from severe burns; scar contraction of axilla due to burn from scalding water; and others. He emphasized the fact that, in reconstructive plastic surgery, each case is a definite problem in itself and there is no fixed or set rule which can be followed in this class of work.

In discussion, Dr. J. R. Earp, Director of the New Mexico State Bureau of Health, brought up the possibility of repairing the wreckage of war and industry with "spare parts" of victims who had been killed. He recalled an incident occurring during the war. A girl working in a wartime industrial plant had been virtually scalped in an accident and was placed in the improvised hospital to which he was attached. Shortly after, a bomb was dropped near the building by a party of German air raiders and among those killed was a very beautiful young girl, with a fine head of hair. It seemed a great pity not to try to transplant the scalp of the girl just killed to the girl in the hospital who needed and wanted one so badly, but the Chief refused to sanction the attempt.

Dr. Crum Epler (Pueblo) asked Dr. Jones what he did to prevent keloids and scars following grafting.

In closing the discussion, Dr. Jones expressed the belief that grafting the scalp from one person to another would not be successful, that skin grafting from different persons had been tried, but does not pay, and skin from the patient alone is successfully used. He recalled Dr. Mann's telling him that he was not convinced that skin could not be grafted from one person to another, and advising him, if he did that work, to be sure to take pictures of it because there were only two or three cases in the literature in which such grafts had been successful.

"I thought he was wrong, and when I had a child whose skin was severely burned and whose mother was in the same blood group, I made a graft from her which took perfectly. I had pictures taken of it and told Dr. Mann all about it. At the end of two weeks everything looked fine. Shortly after this, however, the child had to go home, and not long after, the physician who was caring for the case told me every one of the grafts turned black and came off except some little pieces which I had taken from the child itself, and those pieces lived. I have tried a number of times since to make grafts from other persons, but without success. Dr. Mann tried to graft kidneys from one man to another. They lived for a few months, but never healed entirely. We make use of radium, which softens the skin remarkably and takes a lot of the keloid away.

Adjournment for luncheon.

Luncheon, Alvarado Hotel

At the luncheon session, Attorney Henry H. Clark, of Gillett & Clark, Denver, Colo., addressed the assembly on "Medical Jurisprudence." He referred to the days when common law did not permit a physician to sue and recover pay for his services. The theory of the law followed the etiquette of the profession and forbade him contracting for pay for his ministrations, so obliged him to receive whatever a patient chose to give him. At present, the consensus of opinion in both the medical and legal profession is that practitioners are not required to take chances, but may themselves appraise the value of their services. While a physician is not bound to accept a call, once he has taken a case, he is expected, under law and ethics, to give it his best services, and the patient is obligated to pay him a just compensation. The patient also contracts to obey the doctor's orders and to give him a full and complete description of his case. The physician is not required to guarantee a cure, or be responsible for success or failure, unless it is due to his lack of ability or failure to exercise ordinary care. As to the nature of suits frequently brought against doctors for alleged malpractice, Mr. Clark said that he had defended cases involving the following conditions:

1. A shortened leg, resulting from a re-fracture and a re-setting of a badly united bone.
2. Volkman's paralysis or contracture of a boy's hand claimed to have been caused by too tight bandaging of a broken arm.
3. Alleged blood poisoning from use of bad serum.
4. Miscarriage caused by alleged wrong prescription.
5. Burns caused by electrical treatment for eczema.
6. Burns from hot-water bottles following operations.
7. Drainage tube entering thoracic cavity and not removed for six months.
8. Ill health following operation for a prolapsed kidney.
9. Death of baby in childbirth (which case took four weeks to try and in which nineteen doctors testified).
10. Alleged re-fractured neck of femur from breaking of overhead pulley rope suspending a twenty-pound bag of shot.
11. Death from alleged illegal operation (which in fact was not performed).
12. Severing of ureter in operation for removal of cancer of cervix of uterus.
13. Hernia and other disabilities following operation for lacerated perineum (cystocele and rectocele.
14. Setting of a boy's fractured arm without an open operation, necessitating a second operation.
15. Premature removal of bandages following a reduction of a dislocated shoulder in an elderly woman, causing permanent re-dislocation.
16. Alleged unnecessary amputation of leg following infection from a gunshot wound.
17. Alleged fracture of sacrum by an osteopath in reducing a sacro-iliac dislocation.
18. Amputation of leg following infection alleged to have been caused by use of the Steinmann pin.
19. Sponge alleged to have been left in abdomen following an appendectomy, and being removed *per ani* several months later.
20. Burning and permanently disfiguring a woman's face by use of radium to remove birthmark.

21. Breaking of bones and crippling patient in an effort to remedy flat feet.

22. Use of fifty per cent silver nitrate solution in error for a two per cent solution in case of acute conjunctivitis, destroying eyesight.

Afternoon Scientific Session.

Dr. William C. Finnoff, Department of Ophthalmology, University of Colorado, Denver, Colo., opened the afternoon program with a paper entitled "The Relation of the Eye to General Diseases," in which he stressed the value of ophthalmoscopic examinations, since many times some general disease is discovered thereby, often otherwise not detected. Dr. Finnoff claimed the ophthalmoscope should be in more common use than the syhygmomanometer, for it gives more accurate information regarding the state of the blood vessels, in addition to throwing light on other obscure conditions. He also mentioned the perimeter and other instruments for the examination of the visual fields as of great value in uncovering certain pathological conditions, but stated that these have a limited field of usefulness and belong to the field of ophthalmology. General diseases with obvious ocular manifestations were mentioned, as toxic goiter with exophthalmos, palsies of the extraocular muscles, ptosis or drooping of the upper eyelid occurring after paralysis of the elevator muscle of the upper lid, paralysis of the cervical sympathetic, in which the syndrome of Home's occurs, usually due to pressure from tumor masses in the neck or enlarged lymphatic glands.

Dr. Finnoff divided defects in the field into four groups: (1) those due to diseases of the eyeball, viz., glaucoma, chorioretinitis, optic neuritis, optic atrophy, and so forth, which are usually independent of general diseases; (2) those due to lesions of, or to the effect of pressure on, the visual tracts or centers in back of the eyeball; (3) those due to the absorption of toxins (toxic amblyopia); (4) functional. The first group is of interest only in making a differential diagnosis, but the second is of extreme importance.

In the discussion, Dr. R. O. Brown (Santa Fe), asked as to the best method of examining the fundus and if there is any distinctive movement of the eye that goes with postsyphilitic Parkinson's syndrome. He mentioned a case he had treated in which the trouble dated back to the end of the war. The patient had a retrospasm of the eye, the eyeball would go around and finally turn up. After working the case out as postsyphilitic Parkinson's syndrome, under proper treatment the muscles of the eye cleared up.

Dr. S. D. Swope (El Paso, Texas) expressed his appreciation of Dr. Finnoff's paper, stating that men engaged in neurology or psychiatry can hardly do without the opthalmologist; that it is his routine practice to send all cases to the ophthalmologist and ask his report on the subject, and frequently ophthalmologists send cases to him for light on nerve conditions or on the matter of diagnosis of the condition found, the reports of the ophthalmologist frequently being of great advantage in making a diagnosis. Dr. Swope remarked that one of the unusual things he runs up against, which, however, is very simple to the ophthalmologist, is the peculiar pigmentation of the nerve in dark-skinned people. He also commented upon the changes in the activity of the muscles of the eye in Parkinson's syndrome.

Dr. G. W. Griswold (Roswell) complimented Dr. Finnoff on the able manner in which he covered a very extensive subject and, speaking from the standpoint of erroneous diagnosis, recalled the case of a young man, about 30 years of age, who had a very severe double lobar pneumonia, in which his colleague assured him only three small doses of ethyl hydrocupreine had been given. In 24 hours the dimness of vision of which he had complained became total, following which, for fully thirty days, he had no light perception, after which it gradually returned and cleared up entirely.

Dr. Finnoff, in closing the discussion, advocated the use of the method that seemed best and appealed to the physician most in making examinations of the fundus. "The direct method," he stated "has advantages over the indirect in that you can see minute changes that are not possible with the indirect method. A comparison might be made in the use of the low power of the microscope with the high power. You get a higher power microscopization with the direct method. With the ophthalmoscope, it is very easy to master the examination of the fundus and especially with some of the newer frames, the fundus can be satisfactorily examined with undilated pupil. In Parkinson's disease, one occasionally finds a rotary or mixed nystagmus. It is possible, with a ptosis and a mixed nystagmus, that there might be some lesion in the cerebellum as the cause. There is a marked difference in the pigmentation in persons with light complexion from those of dark skin, those with dark complexion having more pigmentation. The case of bilateral neuritis that followed ethylhydrocupreine may possibly have been an optic neuritis from the pneumonia and not due to the other. Usually cases of quinine blindness are permanent."

Dr. T. E. Carmody (Denver, Colo.), in an address on "Some Points in Bronchoscopy," mentioned the metallic form of foreign body as the easiest to diagnose, then the vegetable or non-opaque foreign body. Diagnosis was generally done by the stethoscope, but of late years by the x-ray. It has been only in the last fifteen years that very good diagnoses have been made by the x-ray of the non-opaque or vegetable foreign bodies. Infection in the bronchial tubes is due to the aspiration of a foreign body: it may be a metallic foreign body, a vegetable foreign body, a clump of bacteria, or a clump of cells that degenerate. In the last few years, we can make diagnosis of tumor of the lung by means of the bronchoscope. Dr. Carmody showed many interesting slides of foreign bodies in the bronchus, and x-ray pictures in connection therewith.

In the discussion, Dr. S. D. Swope (El Paso) asked in regard to hematogenous abscess of the lung.

Dr. R. O. Brown (Santa Fe) asked if the bronchial activities clear up without operation on the sinuses, or whether that is necessary.

Dr. W. A. Gekler (Albuquerque) asked if there are any data as to whether there is any delayed absorption in bronchiectasis.

In closing the discussion, Dr. Carmody said there is no question but that we have hematogenous abscesses of the lung, but whether blood-borne or from aspiration, we cannot always tell. We always find, in these cases, infection of the sinuses and aspiration sometimes of particles of infected material from the tonsils. In using the aspirator, we very frequently find that the plug will hit the aspirator, and from that standpoint I feel that practically all are aspirated and very few are blood-borne. Moving the bronchoscope from one side to the other will cause cough. "Dr. Brown asked if bronchiectasis cleared up without operation on the sinuses. I do not think so; I do not think we ever get a cure. In many of these bronchial cases, we have a loss of many layers of epithelium; we must have a loss of some of our muscular and subcutaneous tissue, and they never clear up entirely. Posterior drainage will help all of these cases. I have a case now of a little child who was bringing up about a cupful a day. After clearing up the sinus, she has gone down to about 1¼ ounces, but will probably not reduce much further though her sinus is entirely clear."

Dr. S. D. Swope (El Paso) presented a paper entitled "Brain Injuries," in which he brought forth that injuries of the brain can be divided into four classes: those resulting from external violence; those resulting from infection (of the encephalon or its covering membranes, by some hemolytic, morbific agent), acute, chronic, general and localized in character; those arising from new growths (of biologic origin); and those arising from psychic shock. Those injuries arising from external force may be divided into concussion, compression, compound and comminuted fractures of the bony protection, with lacerations and punctures resulting. As to hemolytic infections, the bountiful supply of the circulation within the brain makes infection throughout the blood stream easily accomplished. A blood stream infection is a constant menace to cerebral injury. In regard to compound comminuted fractures of the bony vault, they are serious in proportion to the injury done to the underlying structures. The most common injury is compression due to the depression of the bone. The next most frequent is infection, which may be either local or distributed by the circulation to any part of the brain substance. If we can be assured there is no serious injury to the brain substance or its covering membranes, and can remove the pressure and prevent infection, we need not be anxious about the results, regardless of the extent of the injury. The commonest morbific agent we have to contend with in brain infections is influenza bacillus. Then we have diphtheria, scarlet fever, measles, rabies, mumps, malaria, vaccines, and even tapeworm and others, to think about. Then we have cerebral syphilis, with its baleful influence on the central nervous system, including the mental conditions. Relative to treatment the most important element is diagnosis, and the most difficult element of the diagnosis is its physical character and regional distribution. Pressure upon the cerebral tissue should be removed at the earliest possible moment commensurate with the conditions existing, whether that pressure be from external pressure (depressed bone) or internal pressure from hemorrhage, edema, swelling, hydrocephalic conditions, or neoplasms. Spinal puncture with manometric control gives a means of controlling a considerable percentage of intracranial pressure. Cisternal puncture and ventricular puncture are justifiable and practical, but are extreme measures which should be in the hands of experts only.

In discussion, Dr. John R. Evans (Denver) stat-

(Continued on page 438).

BOOK REVIEWS

CLIO MEDICA. INTERNAL MEDICINE, by Sir Humphrey Rolleston, Bart., G.C.V.O., K.C.B., M.D., Hon. D. Sc., D.C.L., L.L.D., Regius Professor of Physics in the University of Cambridge, England. Paul B. Hoeber, Inc., New York. $1.50.

Rolleston has done an endless amount of reading in the compilation of this volume. He refers to the works of about 225 medical scientists, beginning with the earliest writers on medical subjects and ending with the outstanding modern ones. He depicts the development of internal medicine to the specialty it now is. The book is most reasonable. It is of the usual excellent standard in production of Paul B. Hoeber, Inc.

O. H. BROWN.

MEDICINE IN THE BRITISH ISLES, by Sir D'Arcy Power, K.B.E., F.R.C.S., Eng.; Consulting Surgeon, St. Bartholomew's Hospital, Honorary Librarian at the Royal College of Surgeons of England, London. Paul B. Hoeber, Inc., New York.

The history of medicine in the British Isles is largely a history of various medical corporations such as the College of Physicians, The Barber Surgeons Company, The Surgeons Company, The College of Surgeons, The Society of Apothecaries, and so forth.

This is an interesting volume, another of the Clio Medica series.

O. H. BROWN.

DISEASES OF THE SKIN, A Text Book for Practitioners and Students, by George Clinton Andrews, A.B., M.D., Associate Professor of Dermatology, College of Physicians and Surgeons, Columbia University; Consulting Dermatologist and Syphilologist to Tarrytown Hospital; to St. John's Hospital, Yonkers; to Grassland's Hospital; and to the Broad Street Hospital, New York City; Fellow of the New York Academy of Medicine, of the American Medical Asosciation, and of the American College of Physicians; Member of the American Radium Society, of the New York Roentgen Society, and of the Manhattan Dermatological Society. W. B. Saunders Company, Philadelphia, and London. 1930. Price $12.00.

Dr. Andrews says that the motive power in the preparation of this book was a desire to keep himself up to date in the tried and conservative principles of dermatology. The book is truly an encyclopedia of diseases of the skin. Every chapter has appended an exhaustive bibliography. For example the paragraphs entitled "Affections Due to Sunlight" has 20 or more references; "The Treatment of Radiodermatitis" has probably 60 references. So it is with every important subject. The book is not simply the author's experiences but seemingly is a digest of all that is known. It is profusely and beauitfully illustrated. A paging through the book and studying the pictures and legends is a liberal education in dermatology. A reading of the paragraphs on sensitizations, allergy, anaphylaxis proves to the reviewer that Dr. Andrews has a clear thinking analytical mind.

O. H. BROWN.

STALKERS OF PESTILENCE, by Wade W. Oliver, M.D., Professor of Bacteriology, Long Island College Hospital; Visiting Professor, University of the Philippines (Auspices of the Rockefeller Foundation). Paul B. Hoeber, Inc., New York.

Two hundred pages of a small book covering the entire field of medicine from antiquity to the present would seem to be impossible. Dr. Oliver has done just this. The book is most readable. I know of no work saying one-half, or perhaps even one-tenth as much in even a far greater number of pages.

No matter how familiar one may be with the facts of medical history he will enjoy this delightful narrative. The physician who is not familiar with the subject will find this book most practical for giving a comprehensive review of the salient features of medical progress of all time.

The layman will not find it difficult to read.

O. H. BROWN.

HISTORY OF HAITAN MEDICINE, by Robert P. Parsons, Lieut.-Com., M.C., U.S.N., Foreword by Edward R. Stitt, Rear Admiral, M.C., U.S.N., with 21 illustrations and a folding map of Haiti, Paul B. Hoeber, Inc., New York, $2.25.

The history of Haitian Medicine is most entertaining. It was a wonderful opportunity to step into a virgin field, barren of civilized medicine reeking in disease and establish an up-to-date clinic, the medical schools, hospitals and a public health department. Never before has there been the opportunity to detail just such a story. Dr. Parsons has told it succinctly and modestly and therefore is all the more impressive.

O. H. BROWN.

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NORTHEASTERN MEXICO MEDICAL ASSOCIATION

The following interesting report of the second annual meeting of the Northeastern Medical Association of Mexico has been furnished by Dr. W. R. Jamieson, of El Paso.

"I have just returned from Torreon, Mexico, where I attended the second annual meeting of the Northeastern Medical Association.

Leaving El Paso at 6 a. m. Monday, Sept. 15th, I arrived by plane at my destination at 10:45 a. m. I was met at the airport by Drs. Salvador de Lara, President and Alberto Madrid, Secretary. The latter is a member of the Medical and Surgical Association of the Southwest.

At the Casino, the principal social club, I registered. At 1:30 p. m. a lunch was served at the Alperca Esperanza, a beautiful spot about two miles outside the city. After lunch, the program was taken up and several very interesting papers were presented.

The following day there were clinics at the Hospital Civil (City Hospital) and the Hospital Espanol, a private institution. This was followed by another lunch given in one of the downtown restaurants by the representative of one of the drug manufacturing concerns. This was very elaborate. After lunch the reading of papers was continued. In the evening, the session came to a close with a business meeting.

Later in the evening, the annual Independence Ball took place in the Casino wwhich was very well attended by the beauty and the chivalry of Torreon and the surrounding country.

I extended to the meeting a most cordial invitation to attend our meeting in Phoenix. Dr. Alberto Madrid, a member of the program committee of our Association told me that he has about six men lined up already who intend to be present. As he is a man of great energy and personality. I am sure that by the time the meeting takes place he will have several others come with him.

Many physicians and surgeons of prominence from all over the country were present, including Dr. Luis Rivero Borrell, President of the National Medical Association. Dr. Leopoldo Escobar, President of the National Hospital Association. Dr. Ulises Valdes, Secretary General of the Department of Public Health and many others. Dr. Pedro de Alba of Mexico City made the principal speech at the closing session and never have had the opportunity and pleasure of listening to such beautiful sentiments clothed in Spanish of purest Castilian as he put forth to the assembled profession.

I had the great pleasure of renewing old friendships made when I practiced in Torreon. Dr. Adolfo Mondragon, Dr. Julio Castrillon, dean of the profession in the Laguna, Dr. Jose Cuevas, Dr. Leopold Escobar, formerly of Torreon, now of Mexico City and others.

On Wednesday I left by plane for El Paso at 1:10 p. m. arriving in El Paso at 5:40 p. m."

It is hoped that this visit by the president of our Medical & Surgical Association of the Southwest to a sister organization of our southern neighbor will inaugurate a closer fellowship between the medical groups of the two nations.

DATA FOR ARIZONA MEDICAL HISTORY

In the April 1931 issue of Southwestern Medicine the request was made that each Arizona physician give a biography of himself according to the outline suggested at the time. Several physicians have complied with the request.

We are again asking that this biography be supplied. There are no funds for this work and it is a laborious task.

If each member will take upon himself to supply his own data and such other as he can, especially about deceased members, it will materially help out in this wonderful work we are undertaking.

In the front of this Journal is a page which can be torn out and used for this purpost.

LOREN CALL BARLOW

Dr. Loren C. Barlow was born April 8, 1895 at Bountiful, Utah. He was educated in the University of Utah. and the Iowa State College at Ames. He came of a pioneer Utah family who had lived in the west for many years. He served in the air forces

of the United States Marines during the World War. After discharge from the army he undertook to operate a large ranch but the desire to study medicine that he had had since a youth could not be submerged. It was then that he was determined to study medicine and have the work that would be of the greatest joy to him. He went to Washington University, St. Louis and graduated in 1926. He served an internship in the service of Dr. Willard Bartlett in the Missouri Baptist Sanatorium in St. Louis.

After the year of interne service he associated himself as assistant to Dr. Willard Bartlett and thus was afforded him an unusual opportunity to gain surgical experiencce and judgment. In May of 1929 he moved to Phoenix, Arizona and associated himself with Dr. Orville Harry Brown where he had two good years in surgical practice.

He married Irene Smith of Logan, Utah, June 2, 1920. Much of Dr. Barlow's success can be directed to his good wife who was ever cheerful and helpful to him in his efforts in getting an education and establishing himself in surgery.

There are two children, Rachel and Loren Jr., nine and five years of age who will remember their father with a great deal of pride.

Dr. Barlow's charming smile, his radiance of good cheer, his general optimism, perseverence and integrity made him a delightful associate, husband and parent. His excellent training and his seasoned judgment made him a surgeon superior to what his age might have indicated.

He was a diplomate of the National Board of Medical Examiners, a member of the Phi Beta Pi Medical Fraternity, and a Fellow of the American Medical Association.

Dr. Barlow died on June 2, after a very brief illness with an extremely malignant attack of epidemic meningitis.

WILLIAM CLYDE ELLIS

Dr. Wm. C. Ellis, a practitioner of Phoenix for a quarter of a century died in July of cancer of the tongue. Dr. Ellis continued his work up to within a few weeks of his death which occurred while on a vacation in northern Arizona.

Dr. Ellis was born in 1875, was a graduate of the Medical College of Ohio, Cincinnati, in 1899. He located in Phoenix in 1907 and became one of the leading business men of the city, as well as a prominent member of the profession. He bulit the Physicians' Building and a larger office building known as the Ellis Building. He was a member of the local and national medical associations; he was the first chairman of the staff of the Deaconess Hospital, when that staff was organized. He served one term as mayor of Phoenix. He is survived by his widow and a daughter.

PUBLIC HEALTH NOTES

J. ROSSLYN EARP, Dr. P. H.
Director New Mexico State Bureau of Public Health.

BEDBUGS AND TYPHUS

To us in the Southwest typhus and the typhus-like diseases are of particular interest. To the south of us is a reservoir of Mexican typhus, or tarbardillo; to the north of us a reservoir of Rocky Mountain spotted fever. At the present time the tendency is to emphasize the differences to be found between these typhus-like diseases, and the failure to secure cross immunity between them is certainly striking.[1] The clinical differences are much less impressive and might easily be explained by differences in the dosage or virulence of virus injected by different vectors, rather than by an essential difference in the virus itself. Recent evidence points strongly to incrimination of the rat flea (either *Xenopsylla cheopsis* or *Ceratophyllos fasciatus*, or both) in the spread of Brill's disease in the East. Is the flea also the important vector of tarbardillo? Dr. Hans Zinsser is rather inclined to accuse the bedbug. They bite anybody and anything, he says, and under any circumstances. They are not caught flagrante delicto because when they have fed they go home again and do not live on the animal, as the flea does. Moreover, Dr. Zinsser has kept typhus virus alive in bedbugs both by feeding them on typhus rats and by rectal injection of the virus. He draws attention to the fact that tarbardillo is much more common in Mexico City, at 7,500 feet, than in the hotter climate of Vera Cruz, though regular communication is held between the two towns. He would not have expected the flea to flourish so successfully at the altitude of Mexico City. The bedbug, he thinks, might easily do so, and experience of bedbugs at 7,000 feet in New Mexico convinces us that he is right. However, Dr. Maxcy, reviewing the epidemiological evidence, does not believe that the bedbug plays an important part in conveying typhus virus to man. New Mexico experience would seem to suppoort this contention, too, for, whereas bedbugs are abundant, reports of typhus are few and far between. But should the infected rat, with its cohort of fleas, ever become established in our midst, the bedbug might well prove to be a sinister ally.

QUACKERY

Quacks have more lives than a cat. Even Umckaloabo was able to find a champion in the British House of Commons at its last session! And the worst of it is that when one nostrum has been discredited, there is always another (or perhaps the same one with a new name) ready to take its place. The one fundamental remedy is education, and the plea of Dr. Ivy at the last annual session of the American Medical Association, that human anatomy and physiology be taught in our high schools, is worthy of our energetic support. In the meantime we should like to congratulate the National Better Business Bureau (Chrysler Building, New York) upon the splendid campaign they are carrying on against the advertisement of worthless "remedies." Their circulars exposing the same are sent to periodical publishers throughout the country and copies reach our office. We wish them all success.

The sale of nostrums and the practice of quacks are very definitely a menace to the public health.

The American Social Hygiene Association has recently reprinted an article by one of its staff, entitled "Herbalists and Other Charlatans," which deals especially with yogis and the "professors" who diagnose and treat the venereal diseases in the city of Chicago. He estimates that many tens of thousands of dollars are collected annually in that city by these sharks. They diagnose gonorrhea and syphilis "by pressing on the patient's palms, by looking into his eyes, or by getting the date and place of his birth." Their prices run from 50 cents for a bottle of "medicine" to $75 for a complete treatment with cure guaranteed. And those of their victims who really have a venereal disease are likely to believe in the cure for which they have paid so well and to go forth infecting others of like intelligence. The Bureau of Health will always lend its aid to fight quackery and to educate the public in sales resistance to the charlatan.

REFERENCES

1. Dyer, R. E. et al: The Typhus--Rocky Mountain Spotted Fever Group in the United States. Journal A.M.A., 97, 589 (Aug. 29) 1931.

2. Publication No. 745, Americal Social Hygiene Association, 450 Seventh Avenue, New York, N. Y.

THE AMERICAN COLLEGE OF PHYSICIANS
San Francisco, 1932.

The American College of Physicians will hold its Sixteenth Annual Clinical Session at San Francisco with headquarters at the Palace Hotel, April 4-8, 1932. Following the Clinical Session, a large percentage of the attendants will proceed to Los Angeles, where a program principally of entertainment will be furnished April 9, 10 and 11.

Announcement of the dates is made particularly with a view not only of apprising physicians generally of the meeting, but also to prevent conflicting dates with other societies that are now arranging their 1932 meetings.

Dr. S. Marx White, of Minneapolis, is President of the American College of Physicians, and will arrange the Program of General Sessions. Dr. William J. Kerr, Professor of Medicine at the University of California Medical School, San Francisco, is General Chairman of local arrangements, and will be in charge of the Program of Clinics. Dr. Francis M. Pottenger, of Monrovia, is President-Elect of the College, and will be in charge of the arrangements at Los Angeles. Mr. E. R. Loveland, Executive Secretary, 133-135 S. 36th Street, Philadelphia, Pa., is in charge of general and business arrangements, and may be addressed concerning any feature of the forthcoming Session.

THE NEW MEXICO MEDICAL SOCIETY

(Continued from page 435).

ed he was particularly interested in Dr. Swope's paper and believes that too much attention is given to operative obstetrics as producing brain injuries.

Dr. Swope, in closing, remarked that, while he did not touch upon the obstetrical side, he did mention that instrumental delivery and the over-expansion of the uterine musculature might be responsible for a large share of these injuries. "The toxic state we find in advanced labor and all the way through pregnancy in certain persons, may be due to some disturbance to the brain circulation, but I have always set it down in my mind as due to some glandular disturbance."

The concluding number on the day's program was a Skin Clinic conducted by Dr. George P. Lingenfelter, Professor of Dermatology and Syphilis, University of Colorado, Denver. Numerous cases were brought to Dr. Lingenfelter for diagnosis and comment, one of especial interest being that of "athlete's foot," which Dr. Lingenfelter stated is caused by a ringworm infection and is often acquired in the gymnasium or swimming pool. The disease, while curable, is likely to recur, but whether through reinfection or through the fact that the germs undergo alternating periods of quiescence and activity, has not yet been determined.

SECOND DAY—MAY 21, 1931.

Meeting of the Council.

Called to order by the President (Dr. M. K. Wylder) at 8:30 a. m., there being present: Ex-officio members, Drs. M. K. Wylder and L. B. Cohenour; members: Dr. W. T. Joyner (Roswell), Dr. C. W. Gerber (Las Cruces), Dr. C. B. Elliott (Raton), and Dr. R. O. Brown (Santa Fe).

Minutes of the last meeting were read and approved.

Motion was made by Dr. W. T. Joyner that Dr. R. O. Brown (Santa Fe) be elected to fill the vacancy this meeting due to the absence of Dr. Harry Mera. Seconded by Dr. Cohenour and carried.

The Committee on Reassignment of Councillor Districts recommended such Disrticts to be as follows:

District No. 1: Dr. C. B. Elliott, Councillor, to cover Counties of Union, Colfax, Harding, Mora and Taos.

District No. 2: Dr. Harry Mera, Councillor, to cover Counties of Santa Fe, Rio Arriba, San Juan, McKinley and San Miguel.

District No. 3: Dr. Carl Mulky, Councillor, to cover Counties of Bernalillo, Sandoval, Torrance, Valencia, Socorro and Catron.

District No. 4: Dr. H. A. Miller, Councillor, to cover Counties of Curry, Roosevelt, Guadalupe, Quay and De Baca.

District No. 5: Dr. W. T. Joyner, Councillor, to cover Counties of Chaves, Eddy, Lea, Lincoln and Otero.

District No. 6: Dr. C. W. Gerber, Councillor, to cover Counties of Dona Ana, Luna, Hidalgo, Sierra and Grant.

Dr. W. T. Joyner (Roswell) made motion that the recommendation of the Committee be adopted, which was seconded by Dr. Cohenour (Albuquerque) and carried.

Dr. Joyner stated that the councillor should take a very active part in the building up of the Society, in securing new members and getting the eligible men to join, and he thought that each councillor should be required to make a report each year as to conditions in his district.

Dr. M. K. Wylder (president) stated that if a councillor was forced to make trips in connection with his work in his district, it seemed only right that the Society should defray his expenses.

Motion was made by Dr. L. B. Cohenour (Albuquerque) that the State Society be authorized to pay the actual expenses of councillors in the performance of their duties in organizing county societies and obtaining new members in their districts. Seconded by Dr. C. B. Elliott (Raton) and carried.

Dr. W. T. Joyner (Roswell) made motion that each councillor be required to visit each organized society in his district this year and make report at the next Annual Meeting. Seconded by Dr. L. B. Cohenour (Albuquerque) and carried.

Dr. R. O. Brown (Santa Fe) made motion that when the president requests a meeting of the councillors between the general annual meetings of the Society, that the expenses of the councillors be paid by the Society. Seconded by Dr. Joyner and carried.

Adjournment 9 a. m.

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Morning Scientific Session.

Dr. John W. Amesse, President of the Medical Society of the City and County of Denver, Colo., was the first speaker of the morning scientific session, presenting a forceful paper on "Sources of Infant Mortality in the Western States." "It will come as a distinct shock to the thinking public of these intermountain states," Dr. Amesse said, "to learn that this favored region, 'sitting eternal in the sun' and blessed by the Creator with so many other privileges and advantages denied sister commonwealths to the east, has the highest infant mortality in this country. The surprise is complete when we recall that here, where plain and mountain meet, we have a maximum of sunshine, the highest index of ultraviolet light, the lowest humidity ,a population almost entirely native born; in general, good water supplies, and in most districts, a carefully supervised milk supply. There are practically no congested tenement districts, no great number of women gainfully employed, no sweat shops, no special health hazards such as malaria, hookworm and pellagra." Dr. Amesse referred to the average infant death rate in the registration area of 66 per thousand live births, Wyoming reporting 70, Colorado 91, New Mexico 145, and Arizona 133, and advised that leading medical and sociological groups in Denver, with complete cognizance of the situation and of the inconsistencies involved, finally succeeded in initiating an intensive study of infant and maternal mortality to continue from March 1, 1930, to March 1, 1932. The objectives of this serious study are to determine if the mortality figures released by the Census Bureau are correct and to determine, if possible, the factors which are contributing to a death rate which from every viewpoint is abnormal. The survey has clearly shown that economic conditions are a direct factor contributing to morbidity and mortality at the threshold of life. In families with an annual income of $3,000 or over, the death rate is 30 per thousand live births; with $2,000 the rate is 54; with $1,500 it is 57; between $1,000 and $1,500 it is 96 and for family incomes under $500, the rate is 170. The age of the mother is also a well-recognized element in determining both infant and maternal losses. Among mothers under 20 years of age, the infant death rate was 118 per thousand, with mothers 20 to 25 years old, it was only 73, while with those from 35 to 45, it was 121. Dr. Amesse also referred to the fact that "no consideration of death rates in these sparsely settled commonwealths can long exclude the factor of industrialism. A large migrant population is responsible for a very appreciable increase in our mortality."

In opening the discussion, Dr. George P. Lingenfelter (Denver) congratulated Dr. Amesse on his very interesting portrayal of an appalling condition, and, while agreeing that the death rate is dependent in a large proportion on the economic status of the family, called attention to the fact that there are some types of races more prolific than others, and generally it is among this class of people that smallpox, leprosy, and other contagious diseases are found. He also referred to diphtheria, stating that a method of treatment had been developed for the diphtheria carrier, which has shown most excellent results.

Dr. J. R. Earp (Santa Fe) stated that he is extremely interested in the subject and hopes the Department of Statistical Research of the Bureau of Business and Social Research of the Denver University, which has complete control of the tabulations in connection with the survey, would publish the results when completed. "In regard to the higher death rate among the poorer classes, this is only natural because they receive less medical care and housing conditions are insufficient. Some years ago a study was made at Johns Hopkins of the infant mortality rate according to age groups and it was found in that study that the younger the mother is, the less risk there is in the mother and child. There is a considerable difference between that and the Denver experience, but possibly the younger Denver mothers were among the poorer class. The Johns Hopkins experience was on a much smaller number of cases, however, and then in Denver, the high infant mortality in the first days of life was attributed to the fact that they consider it a live child as soon as it breathes. In New Mexico, our problems are almost entirely rural. There is so much territory to cover that we do not know what the babies are dying from, as more than half of them are never seen by a doctor before they die."

Dr. S. D. Swope (El Paso) expressed his enjoyment of Dr. Amesse's paper. stating that the mortality rates shown are certainly a danger signal which all should thoroughly appreciate; that most of our larger cities have made some provision for these conditions, such as the lying-in hospitals of New York and San Francisco, but in the smaller cities and towns at the present time there is practically no provision made whereby prospective mothers of the poorer class can have intelligent attention during their confinement.

Dr. R. O. Brown (Santa Fe) stated that there are conditions in New Mexico which seem to make it absolutely impossible to guarantee a physician for every woman about to become a mother. He wondered if any comparison had been made in Denver as to the death rates between women attended by physicians, and those attended by midwives.

Dr. C. F. Milligan (Clayton, N. M.) expressed his belief that the high death rate is due to lack of education of the public and perhaps a lack of interest on the part of physicians in taking care of these cases. Many times midwives are engaged who can neither read nor write, and the doctor is not called in until something goes wrong; then it may be too late. "We could possibly have some of these women taken care of by physicians if we went about it in the right way, but many of the doctors are specializing these days and are not interested in prenatal care."

Dr. R. W. Mendelson (Albuquerque) mentioned one difficulty in the way of educating the public, in that some people are too dumb to be educated. He referred to the death rate in the tropics, where in some places it runs to 400 per thousand and others 150 per thousand, but this has been reduced of late years and is really not so bad considering the fact that they are sitting on top of the equator. In comparison with the figures quoted by Dr. Amesse, it would seem we are very lax in the United States where there is supposed to be such a high degree of civilization. Dr. Mendelson said he was very strong for taking the proposition of childbirth out of the hands of the so-called midwife.

Dr. F. D. Vickers (Deming) referred to the passing of the family physician of the old days, stating that fully 50 per cent of the graduates of medical colleges fit themselves to become specialists, before leaving college.

In closing, Dr. Amesse expressed gratitude for the very generous discussion accorded his paper and, in illustration of the tendency of young medical graduates to specialize, told of an incident at a Denver College. Among the number who expressed determination to become specialists was one young man who, when asked as to his intentions, replied, "Well, since it looks as though everything else has been taken care of, I will specialize on the nostril." "Which one?" he was asked.

Dr. Amesse gave as his opinion for the high death rate three things, ignorance, poverty, and neglect. "As to the question of Dr. Brown about the rela-

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tive death rates of those cared for by midwives and those cared for by physicians, it is exactly the same. However, a midwife will carry a woman on to the the point of death and then call in the doctor, so she is indirectly responsible. She will carry a labor case to a point where no man can save it, and then call the physician. The whole proposition is entirely an educational problem and when you cannot educate a person, then you are strongly inclined to use a club."

Dr. James Vance (El Paso, Texas) next presented a paper entitled "Personal Observations of Cholecystitis," in which he depicted personal experiences with gallstone colic and subsequent operation. Dr. Vance remarked that "it is a peculiar thing about cholecystitis that the condition may persist for years with slight or no symptoms, and then burst into a fury that drives the patient to operation sooner or later in spite of all that can be done by the skilled internist, by both medicines and diet. In the earlier stages the diagnosis may be, and often is, very difficult. Gallstones, one of the latest developments of cholecystitis, may not give sufficient distress to be even noticed by the patient. Severe typical gallstone attacks are as a rule easily diagnosed, but it must be remembered that epigastric pain frequently occurs in cholecystitis without stones, that is nearly or quite as severe as a gallstone attack. Cholecystitis without complicating diseases, is ever the story of more or less continual, nagging, gastric indigestion and pain, and soda-water taking. The hunger pains of gastric and duodenal ulcer are nearly always absent. Empty stomach and intestines in cholecystitis insures freedom from pain."

Dr. S. D. Swope (El Paso) congratulated Dr. Vance upon his paper, which, he stated, "is of great importance to all of us. He describes exactly the symptoms he had and tells us exactly what we should do if we undergo a like ordeal. He has given us a clear-cut idea of the condition from the viewpoint of the patient and told how it should be cared for by the surgeon."

Dr. Vance, in closing, stated that the subject was entirely too great to cover in one paper, or to take up any one phase of it; that he merely wanted to make such personal observations and comments as appealed to him. "Pain in the epigastrium is a very common thing, and all these cases should be thoroughly worked out before operation. They should first be worked out from the medical standpoint; then, if they do not progress properly with medical treatment, the surgeon should be called in without delay. As far as the necessity for surgery in early cases of cholecystitis is concerned, I do not think it advisable; all surgery should be done most conservatively, excepting in cases in which it must be done at once, and then there should be no delay."

The next speaker, Dr. Dan G. Stine, Professor of Internal Medicine, University of Missouri, Columbia, Mo. presented a paper on "Hypertensive Disease,"—"a disease," he declared, "characterized by increasing arterial tension that has passed 140 mm. of mercury systolic over 90 mm. diastolic, in an individual under terial tension that has passed 140 mm.. of mercury systolic over mm. diastolic, in an individual under 40; or 150 mm. systolic over 100 mm. diastolic, in an individual over 40. As to etiology, as yet no one etiological factor has been proved the cause of the disease. A few of the many theories as to the cause are: that it is due to an unbalance of the internal glanular secretions, particularly of the adrenals, the pituitary and the ovary; autointoxication is a favorite theory and purgation plays a frequent and most beneficial role in the treatment of the disease. One of the most striking clues to the etiology is eclampsia; beginning with the muscular cramps in the legs in pregnancy, which resemble closely the muscular cramps in the legs of hypertensive patients, and continuing through the kidney and liver damage which so often ends with persistent arterial changes and hypertension following the acute attack, the similarity to hypertensive disease is striking. Other theories are that hypertension is due to long continued spasm of the arterioles due to a neurosis affecting chiefly the sympathetic system; that allergy causes the arteriole spasm. The most attractive theory, however, is that of calcium deficiency and the retention of certain metabolites. There is no better description of the individual than that given by Moschowitz: 'The patients are overweight and sometimes even obese. The neck is short, their bodily movements are sluggish, their carriage and walk are ungraceful and they lack the spring and elan of the former athlete. Psychically, these people are tense; they pursue their vocation with tremendous seriousness and worry over trivialities. In consequence, they are irritable. Phlegm and hypertension are antagonistic. Furthermore, these individuals have narrow intellectual horizons; their interest in anything outside their business is desultory. They have no hobbies. In their leisure hours they play cards, sit in the theatres, read the newspaper or rehearse the business activities of the day. Sleep is not restful and they do not believe in vacations.' Death in hypentensive disease may be vascular, from cerebral hemorrhage; cardiac, with sudden death in coronary occlusion; the more prolonged death from congestive heart failure; or the development of uremia and death in coma. Under treatment, the most sure method of bringing about a relief from the symptoms of the disease is rest, long-continued mental and physical rest. Next in importance is diet—not in character of food, but in its amounts. These individuals are large eaters and are usually obese. It is well to limit their intake of food to such an amount that will maintain their weight at something slightly less than the average for their height. Salt is restricted to a moderate amount. As to drugs, luminal is useful to allay mental irritation: coronary dilators are useful when indicated: digitalis will aid a crippled heart; and calcium administered with the use of ultraviolet rays or the administration of irradiated ergosterol is helpful."

Dr. R. O. Brown (Santa Fe), in opening the discussion, asked if diet had been found of any value in hypertension, and if altitude had any effect upon hypertensive patients, stating that some claim high altitude is not a good thing in such cases, while others think it makes no difference. He mentioned the difficulty in persuading the highly energetic type of person, who works all the time and cannot be content unless busily employed at some-

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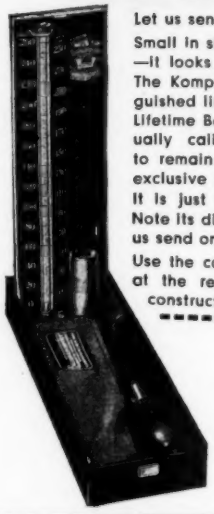

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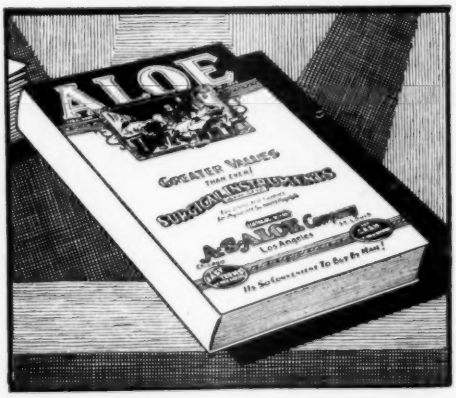

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thing, to take the rest cure so necessary in hypertensive cases.

Dr. S. L. Burton (Albuquerque) expressed his appreciation of the paper and said that the treatment of hypertension reminded him of his own condition. For years he was not able to take out life insurance on account of low blood pressure and an attack of pernicious anemia. He began the use of calves' liver gradually and in about a year blood pressure increased until hemoglobin is normal again.

Dr. James Vance (El Paso) stated that in surgery we run across a great many of these hypertensive conditions and his observation has been that farmers and laborers as a rule do not have hypertension. He wondered what effect beer drinking and alcohol had on hypertension.

In closing, Dr. Stine expressed the opinion that a salt-free diet is very beneficial in these cases, but the most we can hope for is from rest. He did not know anything about the effect of altitude, whether harmful or not, and while he has seen hypertension among farmers, it has been among those who have retired and no longer do the actual work of milking the cows, doing the chores, and so forth. Alcoholics have low blood pressure and alcohol, he believes, is not a factor in hypertension, though, while it seems to spare the arteries, it produces damage to the other parts of the body. Tobacco, also, he believed not a factor in the disease.

The concluding number of the morning program was a lecture by Dr. Frank Ridge, Kansas City, Mo., on "Modern Diagnostic Methods," in which he outlined a machine designed to completely diagnose cases, including psychoanalysis, without which no diagnosis is complete.

Dr. S. D. Swope (El Paso) complimented Dr. Ridge and said that this was something we have long been looking and waiting for and that if some of the doctors in El Paso would get such a machine, the balance of the physicians would have nothing to do.

Dr. N. H. Brush (Santa Barbara, Cal.) stated he was much interested, especially as regards the psychological procedure, but he wanted to object to one feature, in that it was stated that the average psychoanalysis takes six weeks, which is quite wrong, as it takes nearer three years.

Dr. Ridge, in closing, expressed his regret at being unable to get all the details of this wonderful machine and as to its psychoanalysis abilities was inclined to be a trifle skeptical.

Adjournment for luncheon, Alvarado Hotel.

AFTERNOON SESSION.

Meeting of House of Delegates.

Called to order by the President, Dr. M. K. Wylder (Albuquerque) at 1 p. m. Present: Dr. M. K. Wylder (Albuquerque), Dr. L. B. Cohenour (Albuquerque), Dr. Carl Mulky (Albuquerque), Dr. L. F. Elliott (Albuquerque), Dr. E. E. Royer (Albuquerque), Dr. E. C. Mathews (Albuquerque), Dr. O. I. Nesbit (Espanola), Dr. R. O. Brown (Santa Fe), Dr. R. L. Bradley (Roswell), Dr. H. A. Ingalls (Roswell), Dr. C. W. Gerber (Las Cruces), Dr. T. C. Sexton (Las Cruces), Dr. W. H. Woolston (Albuquerque), Dr. F.D. Vickers (Deming), Dr. C. R. Bass (Cimarron), Dr. C. S. Hart (Dawson), Dr. C. B. Elliott (Raton), and Dr. R. A. Duncan (Amarillo, Texas). Fraternal Delegate from Texas.

Minutes of the Council Meeting were read and approved.

Dr. R. A. Duncan (Amarillo, Texas), Fraternal Delegate from Texas, presented his credentials and letters from Dr. Willis H. Flamm, President Potter County Medical Society, and Dr. G. T. Vinyard, Councillor and President of the Third or Panhandle District, State Medical Association of Texas, extending to the New Mexico State Medical Association, a cordial invitation to meet with the State Medical Association of Texas, in Amarillo, at their next Annual Meeting in May, 1932. Dr. Duncan explained that it was not the intention that this be a joint meeting, but he wished the New Mexico Society would take steps to see that one man from New Mexico will appear on each section, of which there are seven.

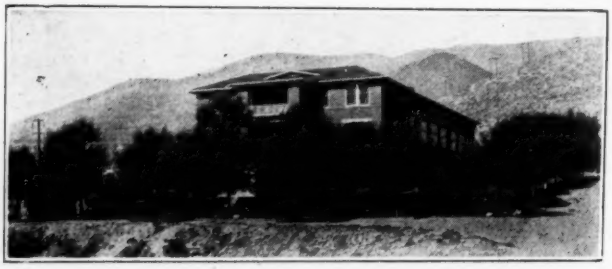
President Wylder announced that the invitation would be filed and due notice taken thereof if proper men could be found who desired to prepare papers and attend the meeting. Election of officers was then proceeded with, with candidates for offices of:

President-elect: Dr. H. A. Ingalls (Roswell) was nominated by Dr. Troy C. Sexton, seconded by Dr. C. W. Gerber. Dr. F. D. Vickers (Deming) was nominated by Dr. Carl Mulky, seconded by Dr. R. O. Brown. Motion was made, seconded and carried that nominations be closed. Vote by ballot resulted in: Dr. Vickers 12; Dr. Ingalls 4.

Vice President: Dr. H. A. Ingalls (Roswell) was nominated by Dr. Caarl Mulky, seconded by Dr. C. B. Elliott. Motion that nominations be closed was seconded and unanimously carried.

Secretary-Treasurer: Nomination of Dr. L. B. Cohenour (Albuquerque), present incumbent, was made by Dr. H. A. Ingalls, seconded by Dr. Bradley. Motion that nominations be closed was seconded and unanimously carried.

Members of Council for Three Years, these to replace Dr. Carl Mulky (Albuquerque) and Dr. C. W. Gerber (Las Cruces), whose terms have expired. Motion was made by Dr. Troy C. Sexton that both these men be nominated to succeed themselves; sec-



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onded by Dr. Ingalls. Motion that nominations be closed was seconded and unanimously carried.

Member of Council to succeed Dr. Harry Mera (Santa Fe): Nomination of Dr. R. O. Brown (Santa Fe) was made by Dr. C. W. Gerber, seconded by Dr. Carl Mulky. Motion that nominations be closed was seconded and unanimously carried.

Delegate to A. M. A. Meeting: Motion was made by Dr. R. O. Brown that the President be allowed to use his discretion in appointing such delegate, after duly looking into the matter and ascertaining what members intended to attend the meeting. Seconded by Dr. Mulky and carried.

Members of Board of Managers, Southwestern Medicine: Motion was made by Dr. R. L. Bradley that the present members of the Board, Drs. P. G. Cornish, Jr., (Albuquerque) and A. B. Stewart (Raton), be continued in the office; seconded by Dr. Ingalls. Motion that nominations be closed was seconded and unanimously carried.

Fraternal Delegate to Texas State Medical Meeting Dr. R. L. Bradley (Roswell) was nominated by Dr. H. A. Ingalls; seconded by Dr. Troy C. Sexton. Motion that nominations be closed was seconded and unanimously carried.

Fraternal Delegate to Colorado State Medical Meeting: Dr. C. B. Elliott (Raton) was nominated by Dr. Carl Mulky; seconded by Dr. R. O. Brown. Motion that nominations be closed was seconded and unanimously carried.

Fraternal Delegate to Arizona State Medical Meeting: Dr. F. D. Vickers (Deming) was nominated by Dr. R. L. Bradley; seconded by Dr. Carl Mulky. Motion that nominations be closed was seconded and unanimously carried.

Meeting Place, 1932: Dr. R. O. Brown (Santa Fe) repeated the invitation previously made by the Santa Fe Chamber of Commerce and Santa Fe County Medical Society that the 1932 meeting be held at Santa Fe. Motion was made by Dr. H. A. Ingalls that the next meeting be held at Santa Fe, N. M., seconded by Dr. R. L. Bradley and carried.

Dr. R. O. Brown (Santa Fe) announced that the State Bureau of Public Health, of which he is a member, felt there should be a closer relationship between the medical profession of the State and the Bureau of Public Health and suggested that a committee be appointed with which the Bureau of Public Health might take up such matters as might seem to be in conflict, should any such questions arise. Motion by Dr. H. A. Ingalls (Roswell) that a committee of three be appointed by the President, from physicians in Santa Fe or proximity thereto, to take up such matters with the Bureau of Public Health as might arise and seemingly be in conflict, was seconded by Dr. R. L. Bradley and carried.

Adjournment 1:30 p. m.

Afternoon Scientific Session

Dr. Curtice Rosser, Professor of Proctology, Baylor University, College of Medicine, Dallas, Texas, opened the afternoon session with a paper on "The Diagnosis and Management of Rectal Cancer," in which he advised that "carcinoma of the large gut, the typical intestinal neoplasm, has an incidence exceeding that of gastric cancer, and 5 per cent of all cancer deaths are due to a rectal carcinoma. This lesion, untreated, has a 100 per cent mortality. Effective treatment is necessarily radical in scope and, entailing as it does in most instances an artificial anus, far reaching in its effect on the patient s after-life. The responsibility which accompanies the final decision that in any given case rectal malignancy is present is profound, since an error on either side may lead to disaster." Dr. Rosser maintained that "while the definite etiology of cancer is unknown, there is an explicit and growing feeling that if the incidence of cancer of this

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area is to be reduced, more attention must be paid to the detection and removal of benign pathology, including polyps, villous adenomata, and in the anal canal infected hemorrhoids, fistulae, fissures and areas of granulation in connection with scars. The early diagnosis of rectal and anal lesions is often tremendously complicated by the overlapping of the syndrome from the bneign condition, to which the patient is habituated, with the slight irregularities which are often the only beginning danger signals. Probably the most constant early sign is a sense of discomfort in the rectum, not relieved by defecation. Bleeding may not be severe, and bleeding may arise from other causes, but all rectal cancers bleed. Pain is usually present in anal cancer early, rarely in ampullary cancer, although referred pain to the sacrum or lower abdomen is sometimes seen. Constipation and 'morning diarrhea' are significant when they appear, but are not always present. In the intermediate stage of the development of the neoplasm, the usual symptoms are constipation or alternate constipation and diarrhea; discharge of blood, alone or mixed with mucus or pus; pain (in cancer at or near the anus) and moderate weight-loss. Determination as to operability is the first question occurring in the individual case, and since from 50 to 60 per cent of patients present themselves with inoperable lesions, this group, large in number, require special consideration as to the proper method of handling. Extension of the tumor to

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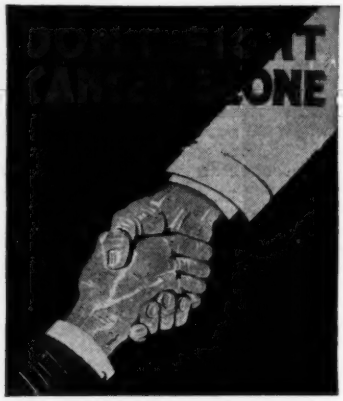

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(William H. Welch, M. D., in Cancer: International Contributions to the Study of Cancer in honor of James Ewing. Philadelphia, 1931.)

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adjacent organs is the most common bar to radical removal; extension by way of the lymphatics, usually occurring later. Venous extension to the liver, fortunately, is uncommon, except in late stages. I prefer to do a colostomy immediately, without waiting for the inevitable obstruction on the inoperable case; secondary infection of the growth is thus decreased, and the radiation, a powerful and effective palliant, is made possible in sufficient dosage to shrink the neoplasm, stop hemorrhage, and hold extension in check. The interstitial implantation of radium needles through a perirectal incision, as suggested by Sir Charles Gordon Watson and others, offers a new and most effective treatment for low-lying inoperable growths."

In discussion, Dr. R. O. Brown (Santa Fe) asked if the injection of true hemorrhoids with carbolic acid has anything to do with bringing on a carcinoma.

Dr. Rosser, in closing, stated he had no reason to believe from anything he has seen in the literature that the injection of hemorrhoids with any chemical brings on malignant growth.

Dr. Nathaniel H. Brush (Santa Barbara, Cal.), in an address on "The Treatment of Delirium Tremens," emphasized certain points: (1) That delirium tremens is an acute psychosis occurring on a basis of chronic alcoholism, but it may also result from a prolonged spree. As this condition is a psychosis, treatment in a psychopathic hospital is indicated. (2) That the attack may be fulminating and the result of some severe injury or acute infection occurring in a chronic alcoholic. (3) That hydrotherapy properly utilized, probably offers us the safest and most efficient means of quieting the patient. (4) That the use of such drugs as morphia, chloral and hyoscine is contraindicated in delirium tremens. (5) That even during the acute stages of the disease, eliminative, supportive, and nursing treatment, must not be neglected."

In the discussion, Dr. M. K. Wylder (Albuquerque) referred to the abnormal sensibilities of this class of patients, telling of a man, hospitalized for treatment of the condition, who, when a cat walked across the floor, said, "Damn you! what do you mean by stamping your feet like a horse."

Dr. R. O. Brown (Santa Fe) asked if paraldehyde had proved of any benefit in cases of delirium tremens.

Dr. O. I. Nesbit (Espanola) mentioned that, when he was an intern in the hospital, as soon as this type of case came in they did a spinal puncture, and they seemed to improve much faster than those upon whom it was not done.

Dr. Brush, in closing, remarked that the individual referred to by Dr. Wylder probably might have mistaken the cat for something else than a cat. He stated that he uses paraldehyde a great deal and considers it a very safe and efficient sedative, but has never made spinal punctures in these cases.

(Continued in October Issue.)

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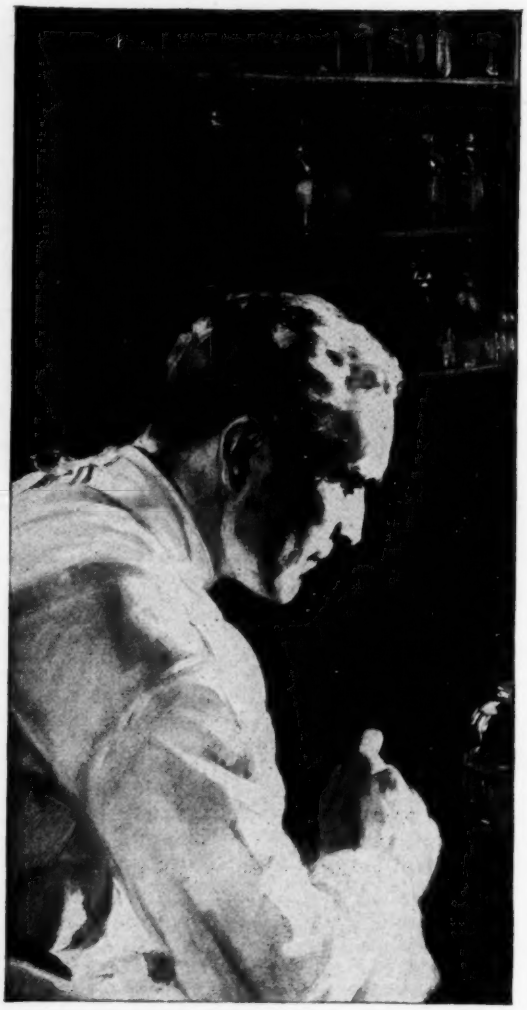

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